

**Tactical  
Wheeled  
Vehicles  
Conference,  
Monterey, CA.**

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**31 Jan - 2  
Feb. 1999**

**20000731 096**

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**INDUSTRIAL COMMITTEE  
OF TANK & AUTOMOTIVE  
PRODUCERS (ICTAP)**

Dave Longley, Recorder  
United Defense

001

# ICTAP CHARTER

- PURPOSE: Forum for principal managers at TACOM and Senior Executives from industry to meet and review issues of common interest and concerns
- OBJECTIVES:
  - Forum for discussion and exchange of views
  - Feedback from senior industry representatives
  - Discuss DoD, Army and TACOM Policies
  - Discuss emerging issues in Government and Industry which affect readiness of tank/automotive systems

# ICTAP MEMBERSHIP

## GOVERNMENT

- CG TACOM
  - PEO GCSS
  - Director, TARDEC
  - Director, IMMC
  - Director, Acquisition Center
  - Deputy for Acquisitions
  - Ex. Direction Operations,  
TARDEC
  - Director Defense Supply  
Center, Columbus
- NDIA
- Vice President
- \*Permanent Member  
(Membership 2 Years-1/2 Rotate Yearly)
- ## INDUSTRY
- Oshkosh\*
  - AM General\*
  - Steward & Stevenson SVC\*
  - GM Canada
  - Caterpillar
  - Allison Transmission
  - United Defense\*
  - General Dynamics Land Sys\*
  - Premier Prof. Systems
  - Motor Products Intl.
  - Lear Siegler SVC
  - Barnes & Reinecke
  - LAU Defense Systems

# ICTAP CHARTER (Continued)

- VP Operations NDI<sup>A</sup>, in coordination with CG TACOM, Appoint a Chairman
  - 1st Chairman: Tom Rabaut, President and CEO, United Defense
  - Current Chairman, James Armour, President and CEO, AM General Corp.
  - Serves 2 Years
- ICTAP meets 2-3 times per year
  - 4 meetings to-date

# ICTAP

- Four meetings since chartered in March '97

- NDIA hosted inaugural meeting
- Industry hosted second meeting
- TACOM hosted third meeting
- Industry hosted fourth meeting

- Topics for discussion are generated by Government/Industry/NDIA Members

# **ICTAP**

- First Meeting
  - June 1997
  - Hosted by NDIA
  - General Exchange of Information
- Agenda
  - TACOM: Goals/Objectives
  - TARDEC: Status of Programs
  - Industry: Company Organizations
  - Charter Discussion

# ICTAP

- Second Meeting: November 1997
  - Host: United Defense, Anniston, AL
  - Agenda:
    - MG Beauchamp: State of TACOM
    - MG Michitsch: Industry Study-AAN
    - Mr. Weinberg, Caterpillar: Best Value
    - Mr. Mehney, TACOM: Acquisition Reform
    - Tour/Briefing: Anniston Army Depot
    - Tour UDLP M113 Facility - Partnering

# ICTAP

- Third Meeting: May 1997
  - Host: TACOM, MG Beuchamp
  - Agenda
  - MG(R) Greenberg: NDIA Overview
  - Col. Doughtery: DLA/DSSC Overview
  - Mr. Holly:
    - » TACOM Focused Sustainment Concept

# ICTAP

- Third Meeting (Continued)
  - Mr. Young: TACOM Industrial Base Management
  - Mr. Siegel: PM Abrams, Obsolescence Integrated Circuits
  - Mr. O'Bryon: OSD/DOT&E, Live Fire Testing Status

# ICTAP

- **Fourth Meeting: December 1998**
  - Host: Pulse Tech
- **Agenda**
  - MG Beauchamp: TACOM Reorganization
  - Al Puzzouli: Deputy PEO, GCSS
  - Creation of PEOs
    - Who, Where, What is PEO, GCSS
    - Managing Systems Life Cycle Costs
    - How PEO, GCSS Manages

# ICTAP

- Agenda (Continued)
  - LTC Cooper: PM Abrams
    - Challenges Now Through 2030
    - O&S Cost Initiatives
  - Engine Modernization
  - Contractor Logistic Support (CLS)
  - Abrams Integrated Management (AIM)
  - Modernization Through Spares

# ICTAP

- **Agenda (Continued)**

- Mr. Art Adlam: TACOM

- Simulation Based Acquisition, Government Perspective

- SBA → SMART

- SBA At TACOM

- Virtual Mock-Up

- Man-In-The-Loop Motion Base Simulation

- Virtual Factory

# ICTAP

- **Agenda (Continued)**

- Simulation Based Acquisition - Industry Perspective
  - What is it?
  - UDLIP Initiatives
    - Culture
      - » IPPTs
    - Process
      - » Simulation Based Design
      - » Simulation - Emulation - Stimulation
      - » Integrated Product CAD/CAM

# ICTAP

- **Agenda (Continued)**

- Environment

- » Common Operating Environment
  - » Virtual Enterprise Environment
  - » System Integration Environment

# ICTAP

- Next Meeting: 19 April, Atlanta, GA
  - Host: NDIA
- Agenda (tentative)
  - Focus Sustainment Update: TACOM
  - Reorganization of Foreign Military Sales
  - TACOM Reorganization - Deputy for Corporate Management

# ICTAP

- Publishing an article on Simulation Based Acquisition: “*A New Way To Help The Soldier*”
  - National Defense Magazine (Jan/Feb)
  - Other Defense/R&D/Academic Journals
- ICTAP Minutes and Briefings on TACOM Web Page

**REMARKS AS PREPARED FOR DELIVERY BY**

**The Honorable Paul J. Hoeper  
Assistant Secretary of the Army (RD&A)**

**Keynote Address**

**1999 Tactical Wheeled Vehicles Conference**

**"How Healthy is Our Fleet?"**

**Monterey, California**

**February 1, 1999**

Earlier this month, I went on a staff ride to Manassas with some of the senior military leaders in Army Acquisition and some of the senior folks from the Industry side. On a Staff Ride, we go out to a battlefield with an Army Historian, walk the terrain and learn about the factors that defined the outcome of the battle. Yesterday, as I flew out here, I fell to musing about the role of tactical wheeled vehicles at the First Battle of Bull Run.

At that time, our tactical wheeled vehicles were mule-drawn wagons. A six-mule wagon could haul a maximum of 4000 pounds on good roads in the best of conditions. In practice, the load seldom exceeded 2000 pounds and half of that was feed for them Army's mules and horses. A wagon could travel between 12 and 24 miles per day. You can see how the tactical wheeled vehicles of the day limited the reach and effectiveness of the armies.

At the beginning of the Civil War, around the time of the First Battle of Bull Run, the standard for the Union Army was 28 wagons per thousand men. By 1864, the growing recognition of the value these vehicles created caused the Union to increase this ratio to 36 wagons per thousand men. On the "march to the sea", Sherman's army operated

with 40 wagons per thousand soldiers. Much had changed since First Bull Run, but many of the principles of ground warfare remain essentially unchanged. Tactical wheeled vehicles were important then, and they are important now.

The Battle of First Bull Run occurred during a time of revolution in military affairs. Up to that time, it was the largest battle fought on the American continent, with about 18,000 soldiers engaged on each side. The commanders in that battle had never commanded forces on this scale, so the battle tactics stopped at the regimental level. First Bull Run marked our first use of rifled shot and rifled artillery – technological advances that dramatically changed tactics.

We are now in a similar period of revolution in military affairs. The application of information technology to warfare has enormous implications to both strategy and equipment. Our business practices are also changing dramatically. It is not simply, as is sometimes said, that we must achieve a revolution in business affairs to pay for the revolution in military affairs. Yes, we need to find efficiencies, and it is terribly important to do so. We will not be able to buy all that we need if we cannot find those efficiencies. But the operational needs of the Army demand, by

themselves, that we change our ways of doing business. It will not be possible to field the weapon systems essential to the digitized force and the Army After Next without changing the way we develop, acquire, and support them.

We will have the fundamental platforms we are digitizing today for, perhaps, twenty-five to thirty years. During that time, we will add platforms to the system of systems that will be the digitized force of the future, and will be part of the Army After Next. We want the systems we will add in the future to be compatible with the systems we plan to field by 2000. And we want the ability to upgrade the systems we are building today to the performance that we know technology advances will make possible for future systems.

The fact that we are going to have many of our platforms in place for so many years means that we will need to modernize them significantly over time. We may give the wrong impression when we say that seventy percent of the platforms for the Army After Next are fielded now or shortly will be. That is true enough, in terms of the outside appearance. Many of our Tactical Wheeled Vehicles (HMMWV, FMTV, PLS, HETS) in the field today will be part of the Army After Next. They will probably look

much the same as they do today. We do not plan to give them a cosmetic face-lift, but they will get numerous transplants. Our 33-Ton Truck/Trailer, the Palletized Load System (PLS), will still look like today's PLS, but it will have more efficient commercial engines with a digitized cab that incorporates both a Movement Tracking System and a "Sealed Hood" concept. This digitized cab will give our soldiers enhanced mobility, capacity, reliability, and situational awareness.

Digitization, as with the digitized cab in PLS, is the application of information technologies to Army weapon systems so our soldiers and leaders can acquire, exchange, and employ timely information throughout the battlespace. Whether built in a platform or added capability, digitization depends on information and communication technologies. It is the Army's highest research, development and acquisition priority. We have all seen the rapid advances of the past fifteen years, since IBM brought out its first personal computer. The computer chips that these technologies depend on are doubling in power every eighteen months. Our time to field for a fairly large system is about twelve years. How can we keep the systems we will field in the next few years compatible with the systems we will be fielding ten or

twenty years from now? Both will be part of the digitized Army of 2020.

We will have to change the way we do business. We used to design point solutions for specific platforms using military-unique components and architectures. To succeed in the future, we must use open architectures that allow horizontal technology integration across systems of systems. It is not simply that commercial information technologies are cheaper, although they can be. Nor is it always true that commercial solutions are more capable than the point solutions we have incorporated in the past. It will often be possible to design a military-unique solution that is more capable than anything presently available from the commercial market. The problem is that we take an average of twelve years to field a major system, while the power of the computer chips on which the commercial digital technology depends doubles every eighteen months. The most important reason for us to gain access to commercial technology is not to save money; it is to get on the commercial innovation cycle using an open architecture. If we do this, we will gain the ability to modernize our weaponry through the timely insertion of communications and information technology – brain transplants.

The use of open architectures that accept commercial upgrades is not limited to digital technologies. A major goal of the FMTV program was to simplify the overall support system. Specifically, commonality of components was a design criterion. As a result, there is more than eighty- percent commonality between the Light Medium Tactical Vehicle (LMTV) and the Medium Tactical Vehicle (MTV). This translates to a reduction in inventory and material handling requirements, as well as simplified operator and maintenance training. The approach also allows insertion of improved technologies, as we are doing with the current buy.

As we modernize to add capability, we must also bring down operation and support (O&S) costs. One important initiative in this area is Modernization Through Spares. Tires and batteries are major cost drivers for our Tactical Wheeled Vehicles. Let's take our Heavy Expanded Mobility Tactical Truck (HEMTT) fleet – 12,600 strong – each with eight tires. That's more than 100,000 tires. By capitalizing on the modernization through spares initiative, we replaced the old tires with ones that have a higher load rating, improved tread design, and are common with PLS and the Heavy Equipment Transporter System (HETS). The new tire can even be patched.

I want to apply this concept to the rest of the fleet. As we explore all areas to cut O&S costs and, at the same time, reduce the logistics burden, it seems to me that a significant reduction in the different types of tires we use and carry around is important. Some have mentioned a fifty percent reduction. I don't know what the answer is, but we need to take a serious look at this.

I also mentioned that batteries are a major cost driver in our Tactical Wheeled Vehicles. What is being done to address this problem? The PLS program is replacing its current 145 amp alternator with a 200 amp that provides more output during high load events. Also, a master disconnect switch has been added to prevent the constant draw of current placed on the battery by the Electronic Control Units. Together, these improvements are extending battery life in PLS.

How do we come to grips with the fact that we must either invest in the future or else consume ourselves with O&S costs? The Army will continue to recapitalize our vehicles where it makes sense. We are completing a very successful 2-1/2 ton remanufacturing program this year that helped modernize our medium fleet and control increasing O&S costs while the Family

of Medium Tactical Vehicles (FMTV) program was ramping up. We will begin the same type of program for the HEMTT fleet starting in Fiscal Year 2000 in order to maintain readiness and control O&S costs until the Future Heavy Tactical Truck program is in place around the 2010 time frame. The HEMTT remanufacturing program will also provide an opportunity to adjust the mix of HEMTT variants by converting cargo trucks into HEMTTs with a Load Handling System similar to PLS.

O&S costs can make up 70 to 80 percent of a system's total life cycle cost. Reducing total ownership costs for Army systems is a high priority. The acquisition and logistics communities have instituted reform initiatives targeting lower system ownership costs. All of us charged with giving soldiers what they need must work together on this: those involved in combat development, requirements determination, training development, financial management, materiel development, and logistics. Integrated Process Teams or IPTs, with representatives from these functional disciplines, are a program tool for identifying total ownership cost reduction opportunities. Our plan is to find ways to save both acquisition and O&S dollars during system design as well as through deployed system modifications and upgrades. I have already given you an example of deployed system

modifications, so let me try to give you an example in system design.

Considering the earliest stages of development, the Army developed the 21<sup>st</sup> Century Truck concept with a primary goal to reduce emissions and improve fuel economy in future light, medium, and heavy commercial and military trucks. Last September, I approved the implementation plan for 21<sup>st</sup> Century Truck. It is consistent with Army After Next goals to reduce the fuel requirements of a deployed force. Technology areas will focus on propulsion, vehicle intelligence, advanced materials, aerodynamics, and alternative fuels. The key to this effort will be to develop a strong, enduring partnership among government, commercial industry, and academia. I am pleased by the support we have received from major commercial truck, powertrain, and component manufacturers.

In the area of modifications and upgrades, we discovered that our High Mobility Multipurpose Wheeled Vehicles (HMMWVs) go through a lot of glow plugs. These are the devices that raise the temperature of the fuel and air mixture in diesel engines when the engine is not hot enough to create combustion. HMMWVs have a protective control box in the ignition that is supposed to

turn on the glow plugs under appropriate conditions. The problem is that soldiers will often turn the ignition on and off repeatedly when they try to start a HMMWV on a cold day. This confused the electronics on our HMMWVs and allowed the glow plugs to reach two thousand degrees Fahrenheit, when they burned out. It is not that the protective control box was badly designed. It was constrained by the technology of the time – our HMMWVs were designed fifteen years ago. Glow plugs are one of the top ten cost drivers in HMMWVs.

To solve this problem, our Tank Automotive and Armaments Command (TACOM) formed a team comprising TACOM's Research, Development and Engineering Center (TARDEC), the Acquisition Center, the HMMWV program manager and the Integrated Material Management Center to analyze the problem. To get the solution into the field, TACOM teamed with Lau Technologies. The result is a new, solid state device based on state-of-the-art commercial technologies. The form factor is exactly the same so replacement is easy.

What did we get? TACOM and Lau have solved our glow plug burnout problem, which used to be one of the top ten cost drivers on HMMWVs. The new protective control box also allows engines to start if several glow plugs are burned out through

normal wear. The bottom line is that we have reduced O&S costs, improved reliability, and given our soldiers an extra margin of safety all at the same time.

I am glad to have this chance to talk to you about how we will provide for the needs of the digitized army and the Army After Next. I have talked about new systems, open architecture, modernization through spares, and recapitalization. All are tactics aimed at our overall strategy of completing digitization and preparing for the Army After Next while dramatically bringing down O&S costs and reducing our logistics footprint. During the next few days, we will have a chance add new ideas. The really good ideas will come from working together. We have big problems to solve. Let's work together and get on with it.

# CONGRESSIONAL PERSPECTIVE

1999 TACTICAL WHEELED  
VEHICLES CONFERENCE  
February 1, 1999

Michael Chase  
William Daoulas  
J. David Willson

# FY 1999 CONGRESSIONAL ACTION ON DEFENSE

## ■ Regular Appropriation Bill

### ■ Supplemental Bill

- \$9 Billion
- “Emergency”
- Increased FY 1999 Base for FY 2000
- Less Pressure for FY 1999 Reprogramming/Rescissions
- Will Not Happen Again This Year

# 106TH CONGRESS

- Leadership Changes

- New House Speaker
- New SASC Chairman/Subcommittee Chairman
- New HAC Chairman/Subcommittee Chairman

- Staff Changes

- Other Changes
  - Smaller Republican Majority in the House
  - Fewer Veterans
  - New House and Senate Rules

# 106th CONGRESS LEGISLATIVE AGENDA

## Impact of Impeachment Proceedings

### Issues Intertwined:

- Social Security
- Education
- Tax Cuts
- Defense Increase
- Surplus

## New Budget Agreement/Summit?

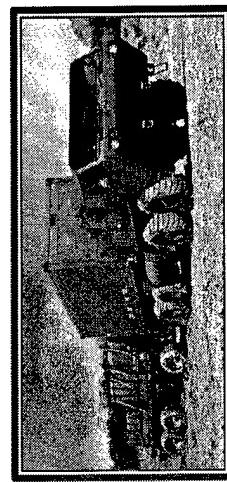
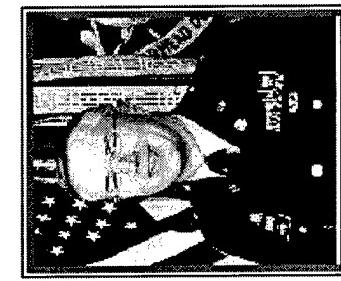
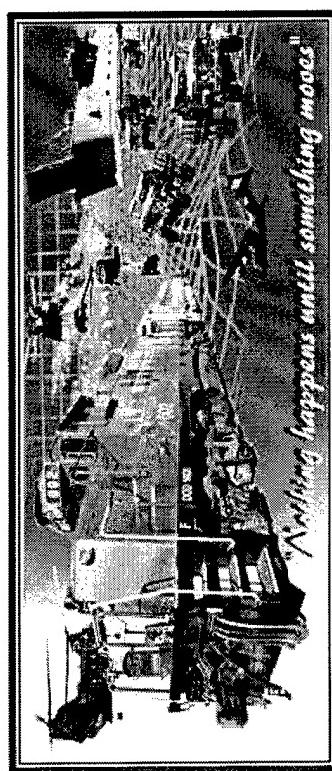
# DEFENSE BUDGET FOR FY 2000

- President's Budget Increase Will Not Be Cut By Congress
- Firewalls Are Down in FY 2000
- Congressional Defense Increases Dependent on Resolution of Other Issues
- Trucks Continue to be Low Priority

## FORCE



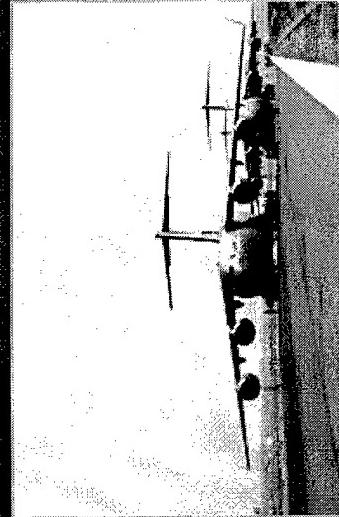
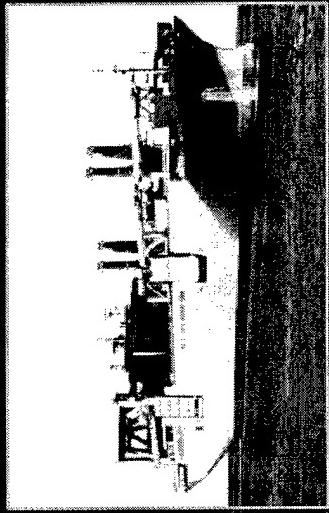
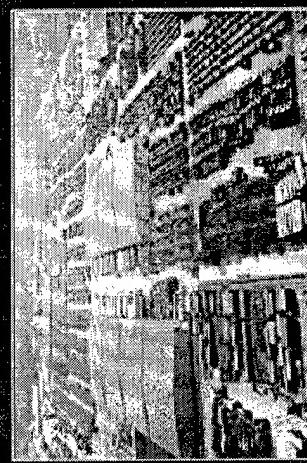
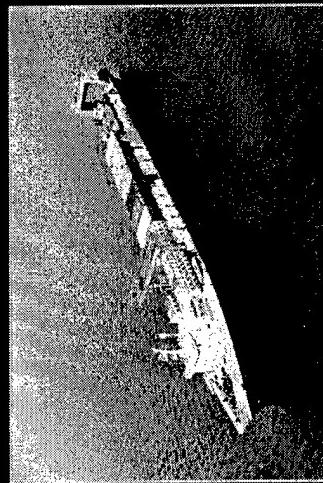
## TRANSPORTATION CORPS



*Chief of Transportation  
BG Gilbert S. Harper*



# Strategic Transportation



**If you look at war as a sport.....**

**"In 1939, Hitler had the best Army, the best equipment, the best organization and the whole country behind him. But in 1945, Berlin stood in ruins because Hitler could not win on the road."**

**—Marv Levy, former Head Coach, Buffalo Bills.**



**..... A power projection  
Army must be able to win  
on the road.**

**“A task without vision is drudgery.**

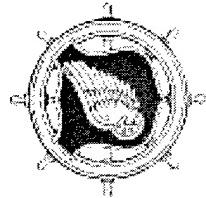
**A vision without a task is a dream.**

**A task with a vision is victory.”**

— Unknown



## AMERICA'S ARMY TRANSPORTATION CORPS *STRATEGIC VISION*

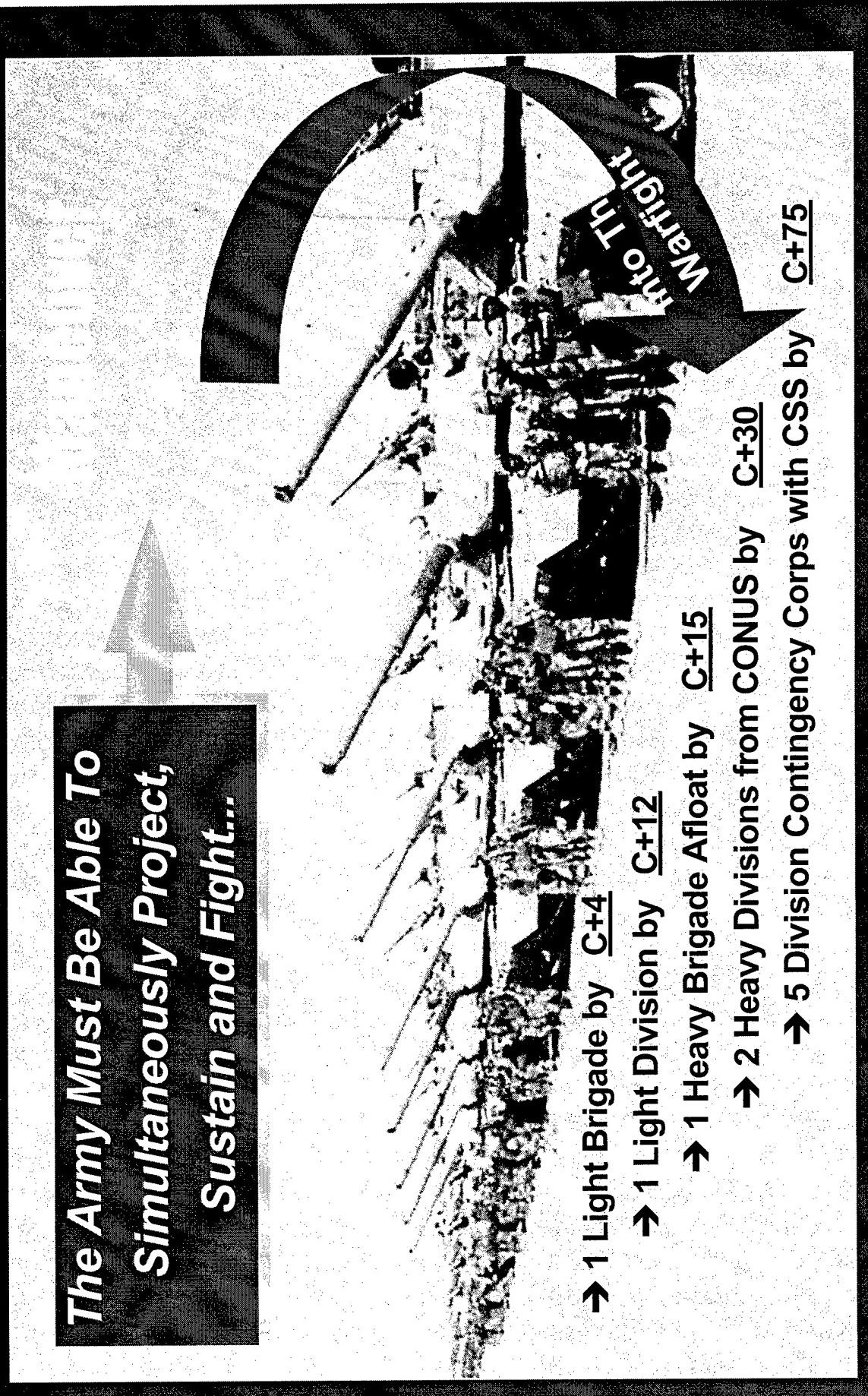


- The Transportation Corps will lead America's Army in the transition to an integrated, transportation-based global distribution system capable of efficient operations in peace and war. It will serve as a combat force multiplier by anticipating and fulfilling wartime theater support demands with unprecedented speed and flexibility.
- The Transportation Corps will lead in the development of force deployment, transportation-based distribution doctrine and integrated training. It will emphasize increased velocity through modernization, synchronization and adaptability in support of our force projection Army.
- The Transportation Corps will leverage emerging technologies and thrive on the digitized battlefield. It will provide movement control and direct delivery to deployed forces in a dynamically fluid, nonlinear battlefield in Force XXI and into the Army After Next.
- The Transportation Corps' soldiers and civilians will lead and perform multifunctional and joint logistics roles. Professional development will produce ethically, technically and tactically sound leaders.
- The Transportation Corps will lead the Department of Defense in deployment and power projection training and education. The Transportation Corps' soldiers and civilians will provide the professional transportation and distribution logistics expertise in Joint Commands and Defense Agencies.

**GILBERT S. HARPER**  
Brigadier General, U.S. Army  
Chief of Transportation

# THE TASK Dominant

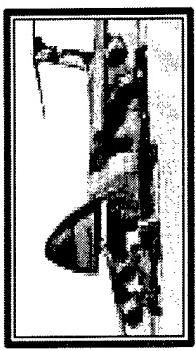
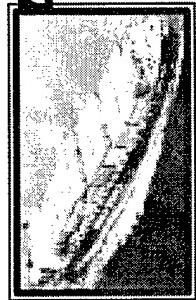
*The Army Must Be Able To  
Simultaneously Project,  
Sustain and Fight...*



# Army Deployment Comparisons

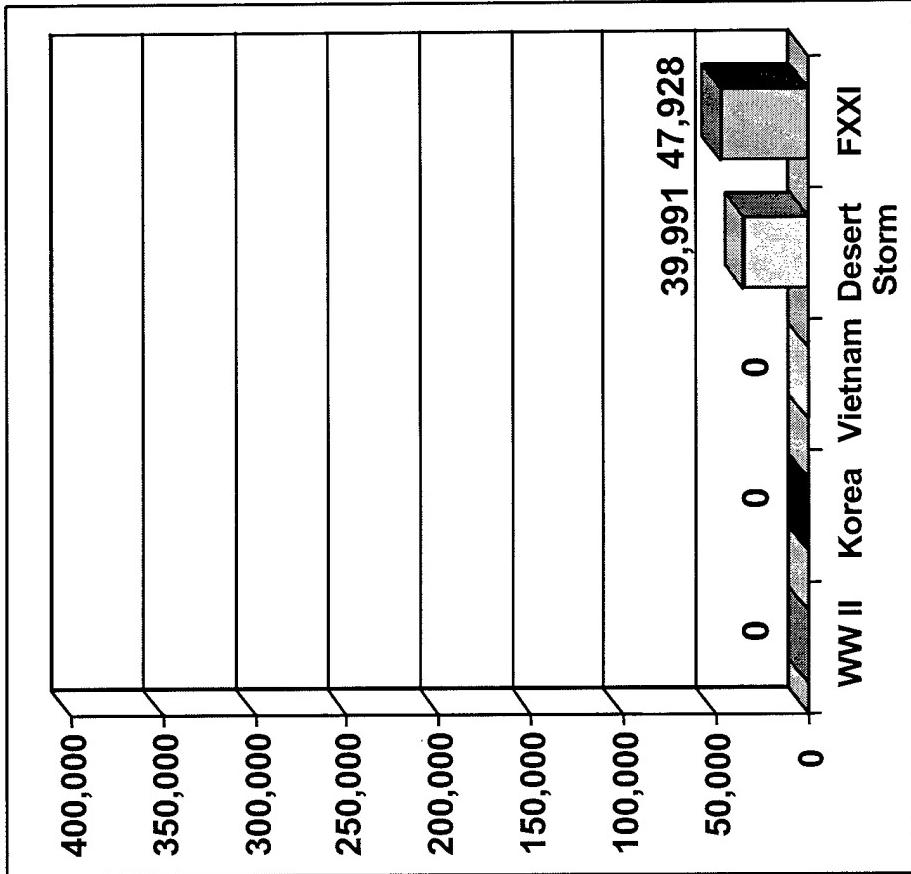
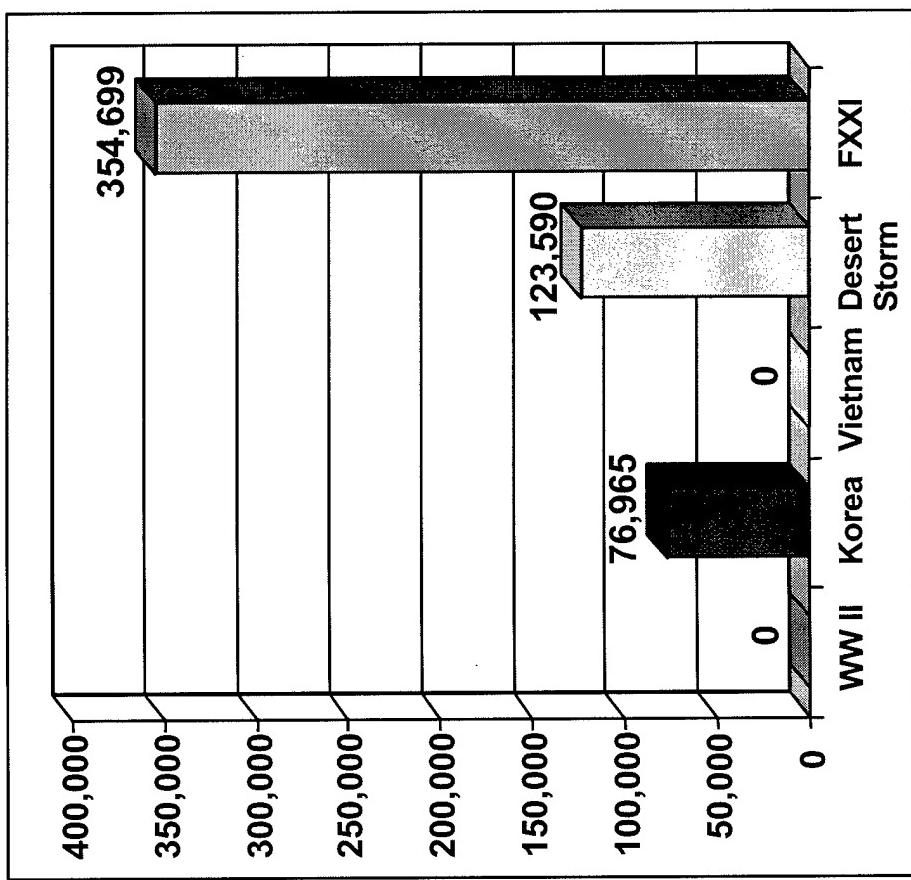
## Tons of Supplies & Equipment

### First 30 Days



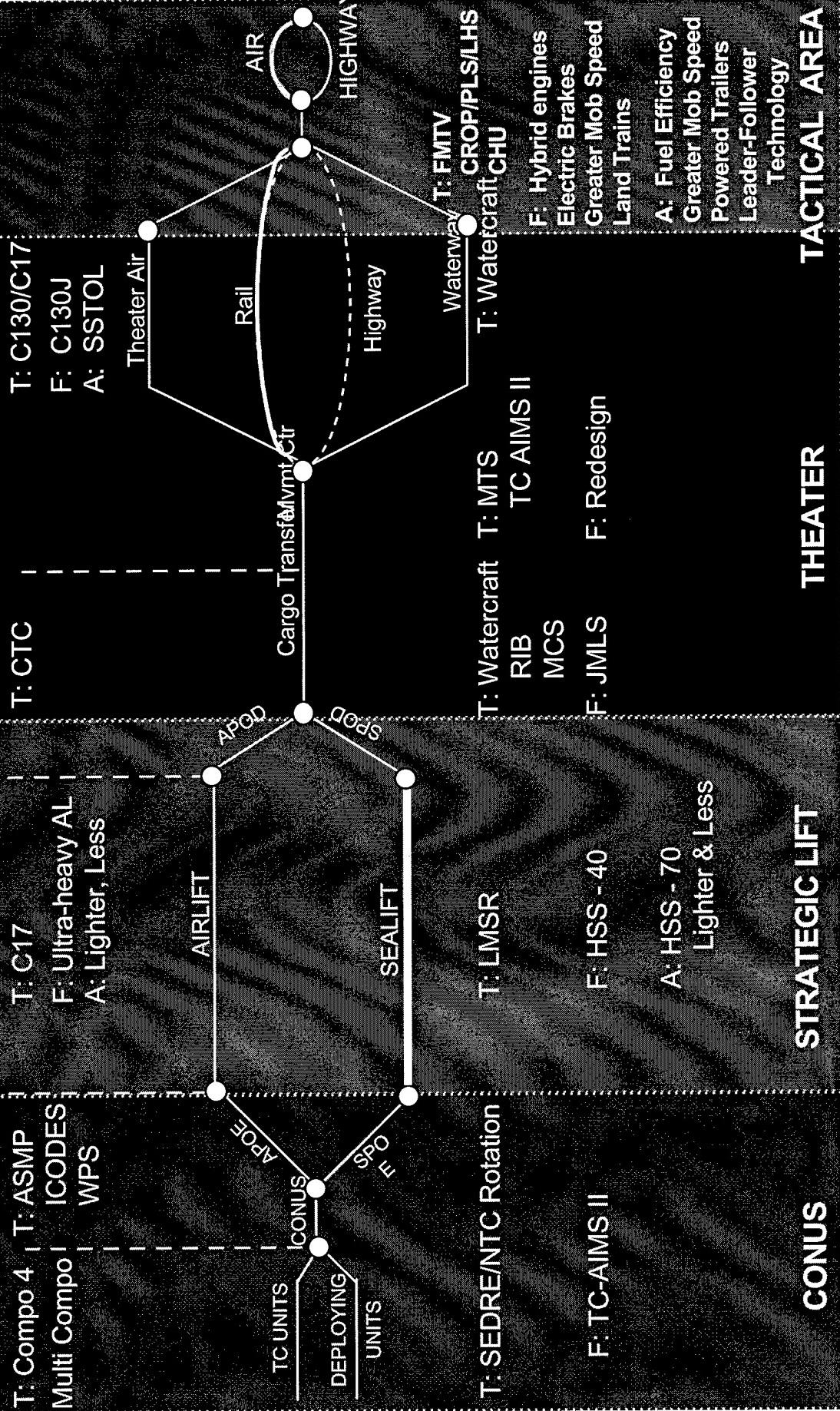
**SEALIFT**

**AIRLIFT**

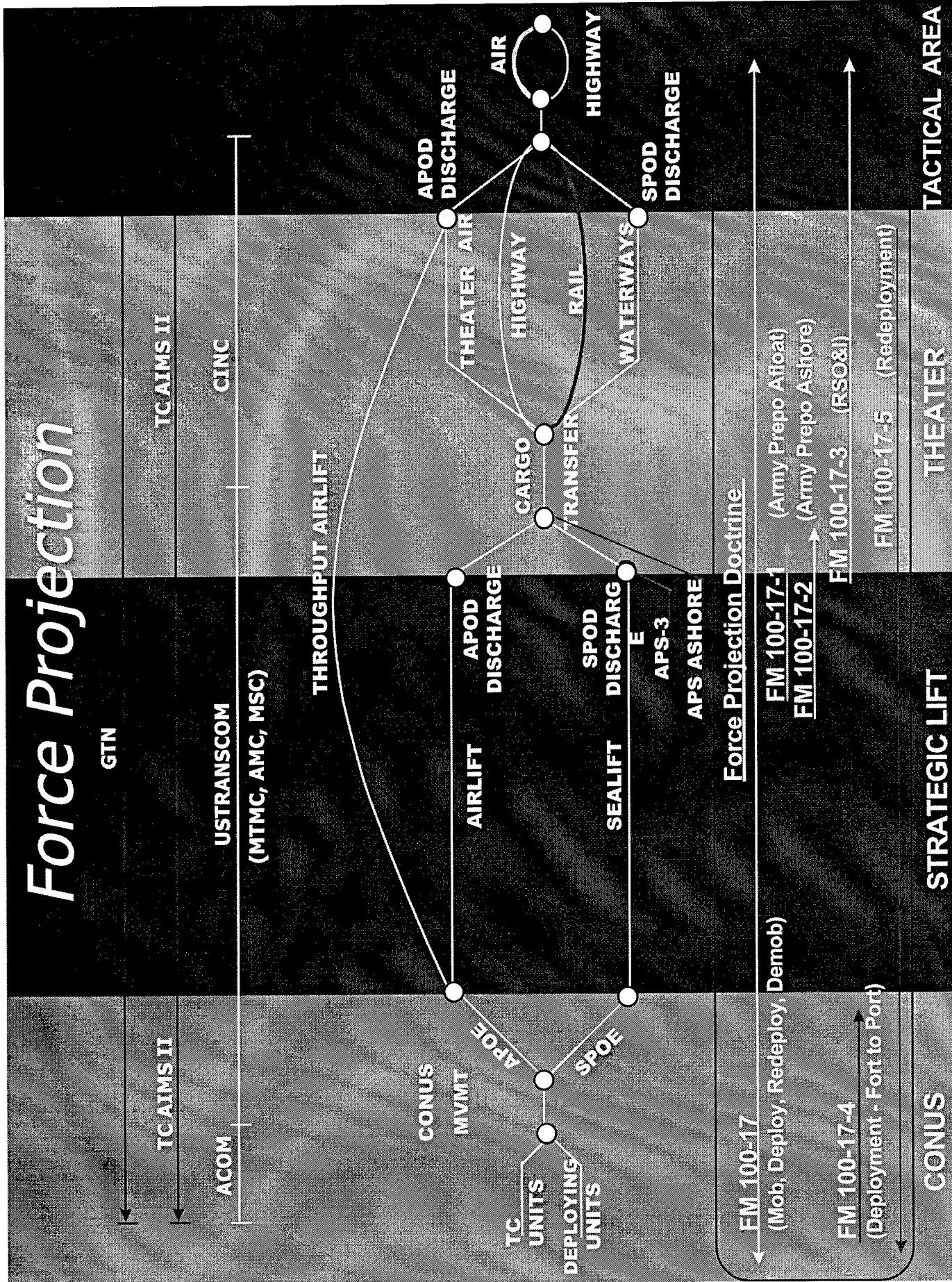


## Force Projection Process

T = Today  
F = Force XXI  
A = Army After Next

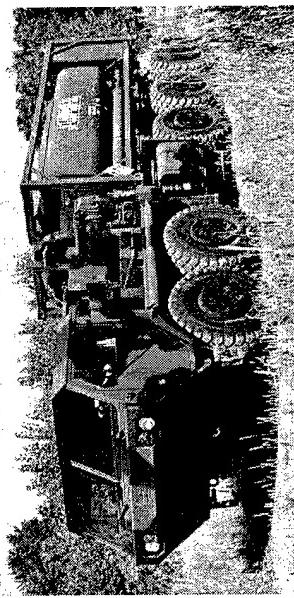
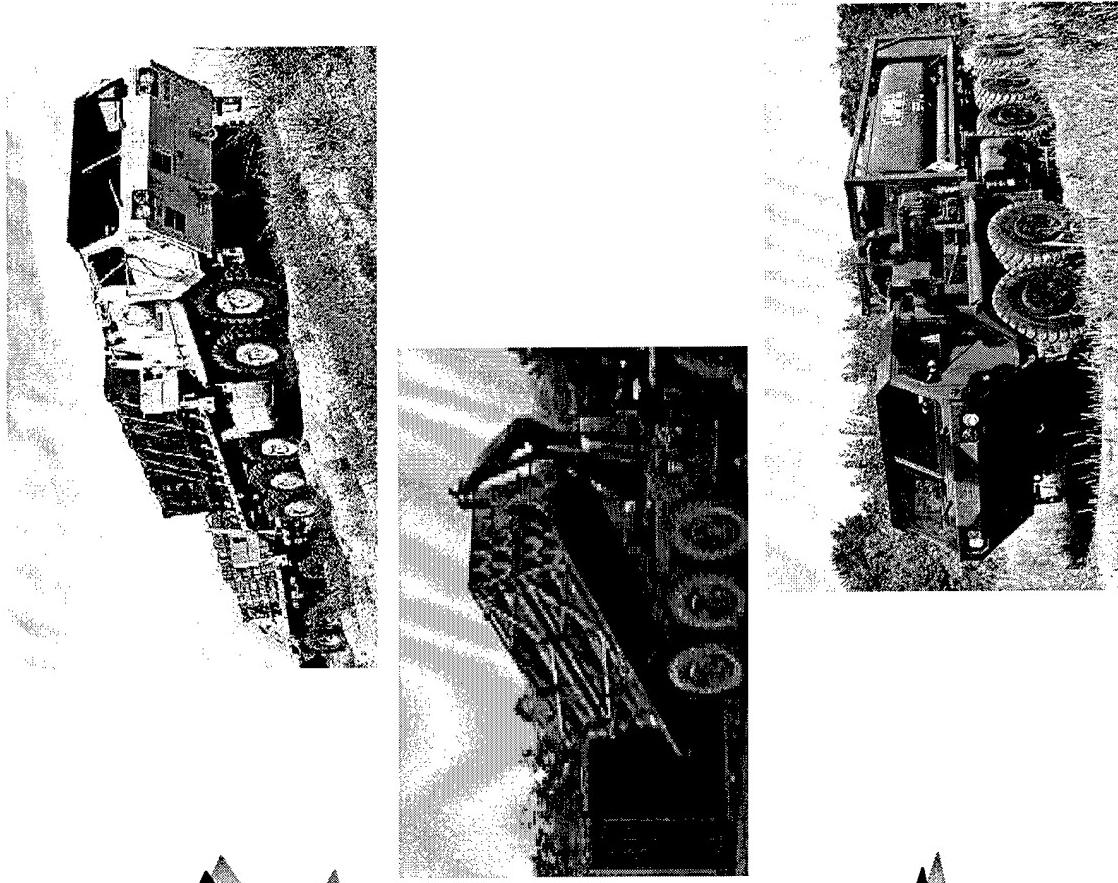
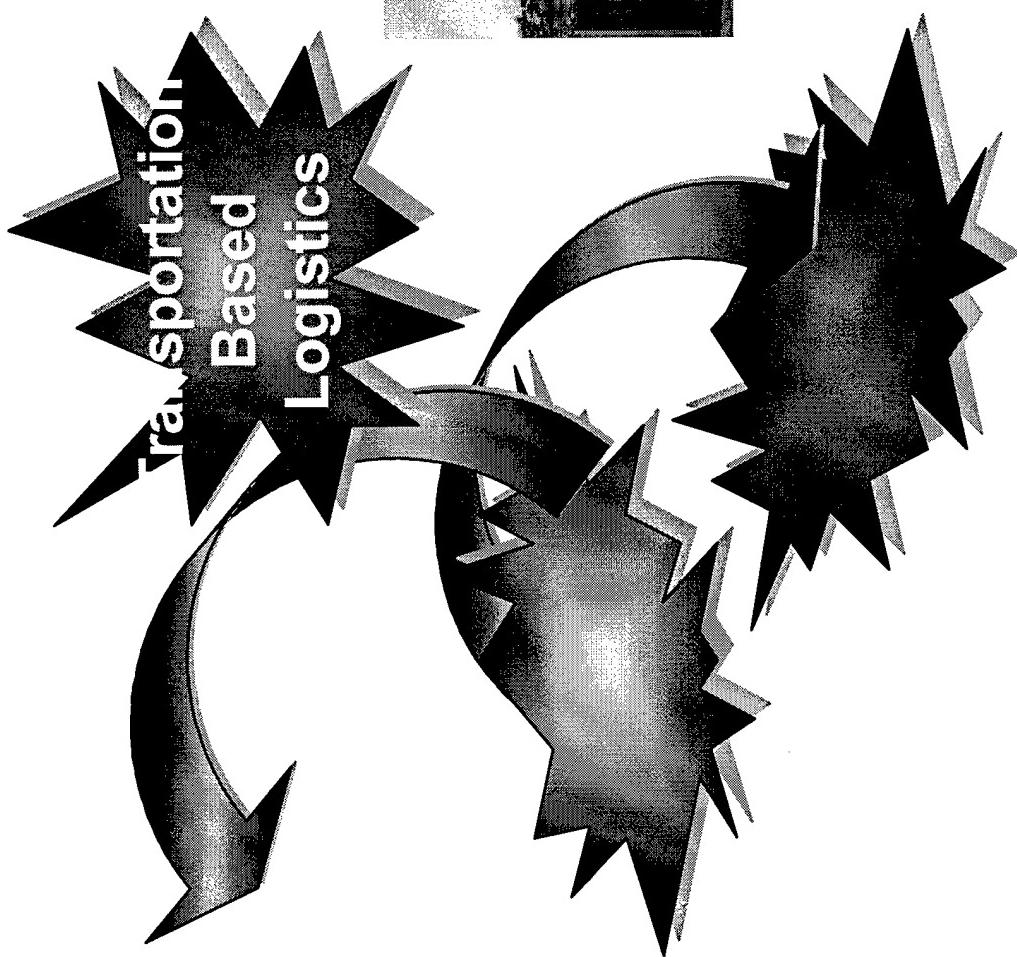


# Force Projection



042

# **Operational and Tactical Transportation**



# The Future

**"The Future ain't what it used to be"**

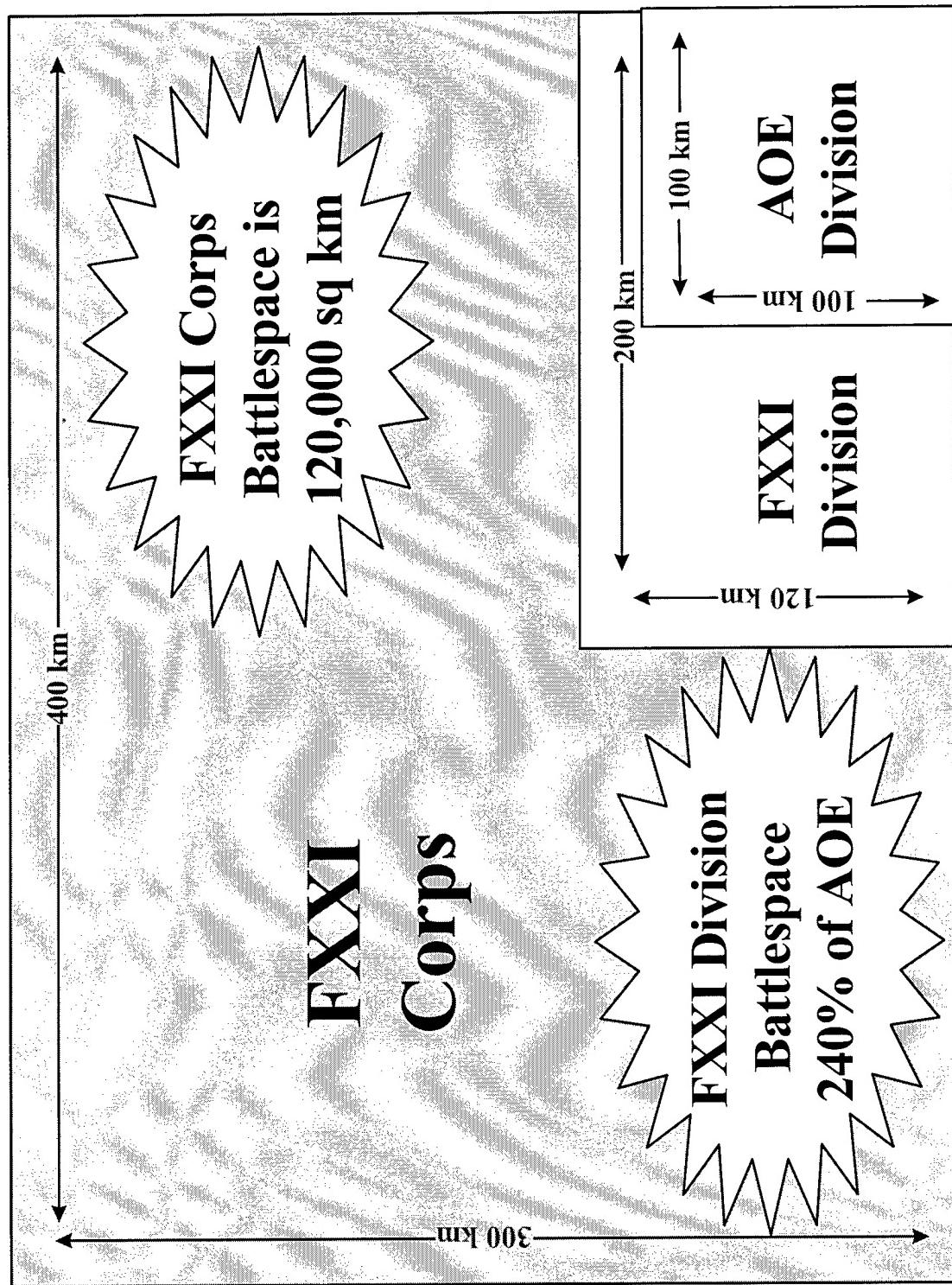
— Yogi Berra



# BATTLESPACE

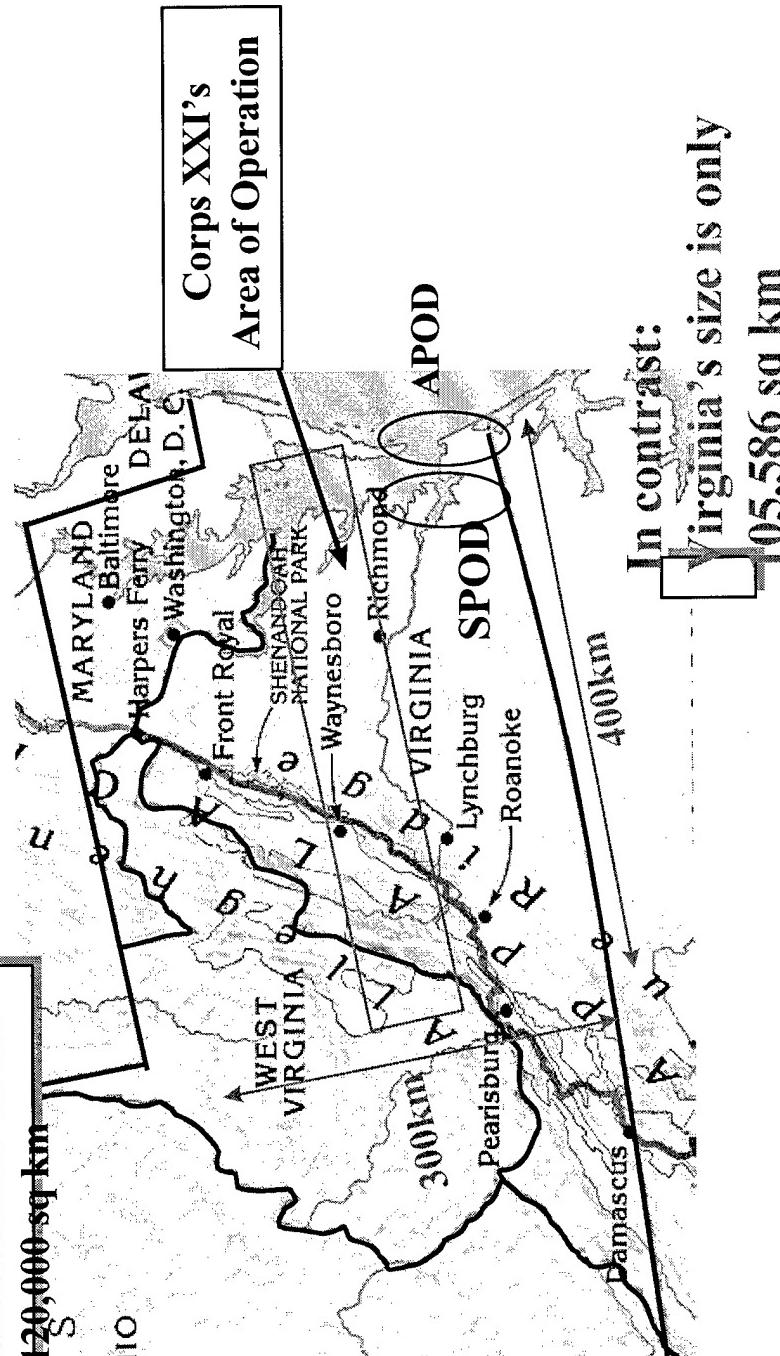
*Force XXI*

# The Expanding Battlefield



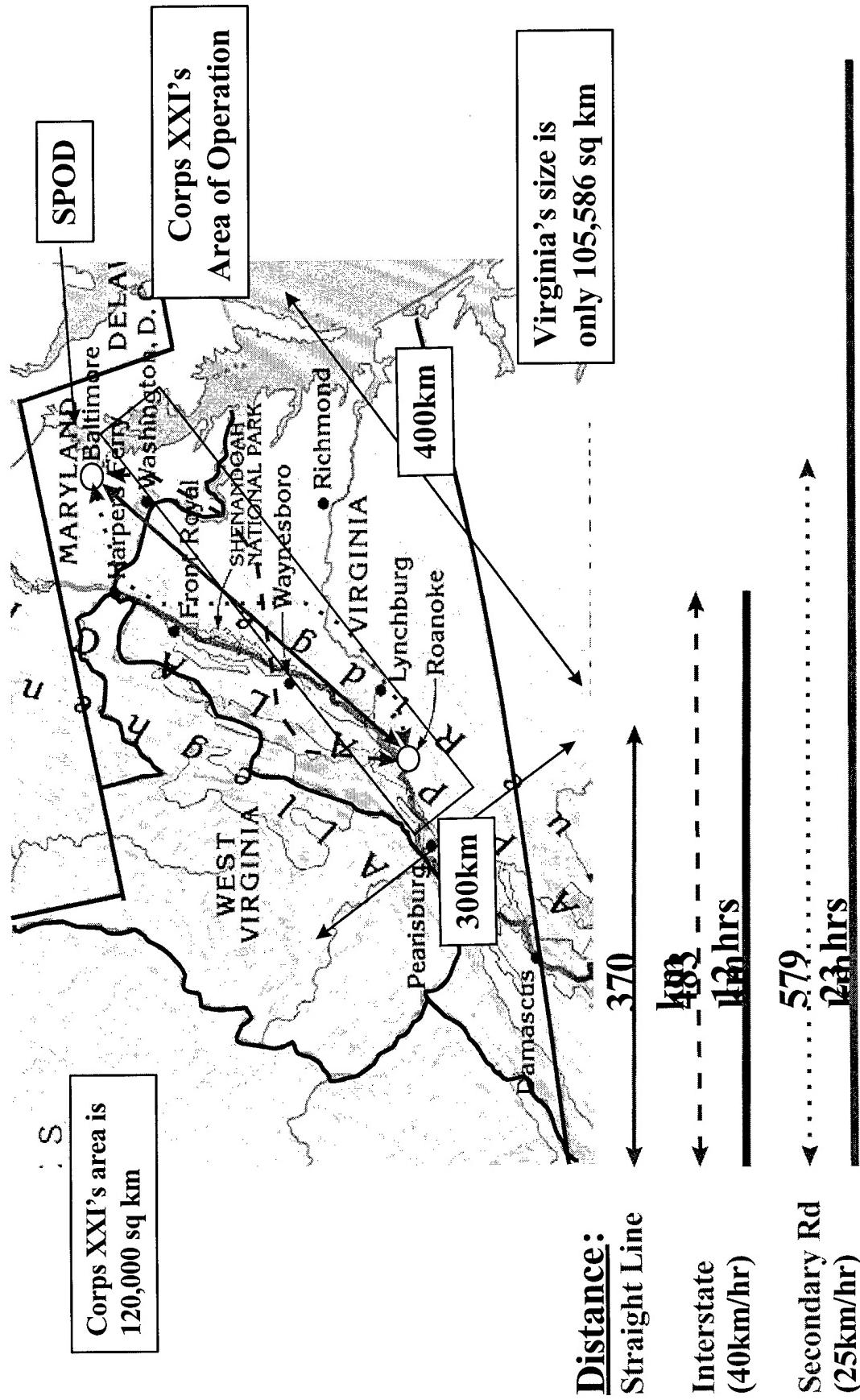
# Challenging The Laws of Physics

XXXI:  
Corps XXI's area is 300km x 400km  
This equates to 120,000 sq km



# Road Distance

*The Rest of the Story*



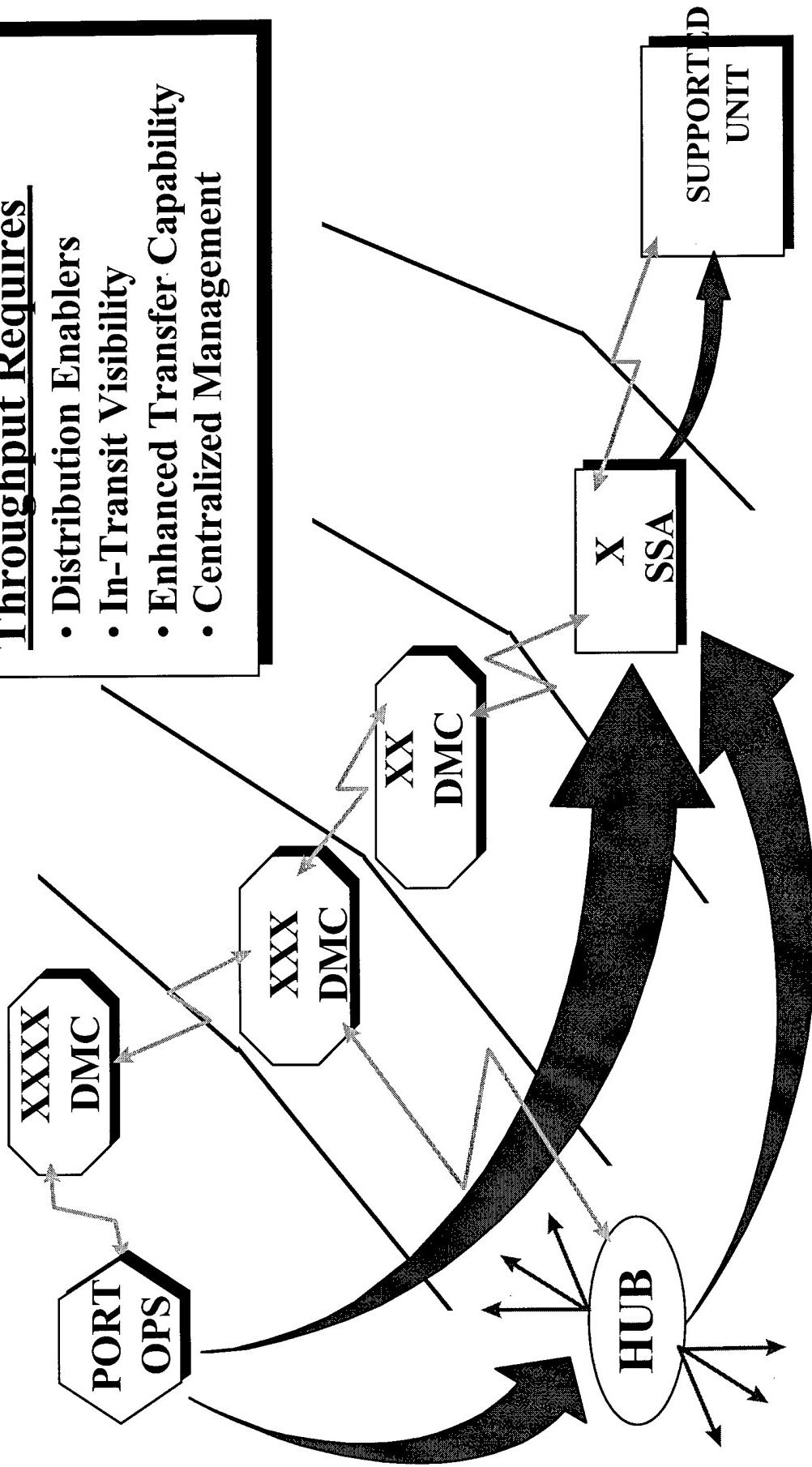
# **TRANSPORTATION BASED LOGISTICS**

*Force XXI*

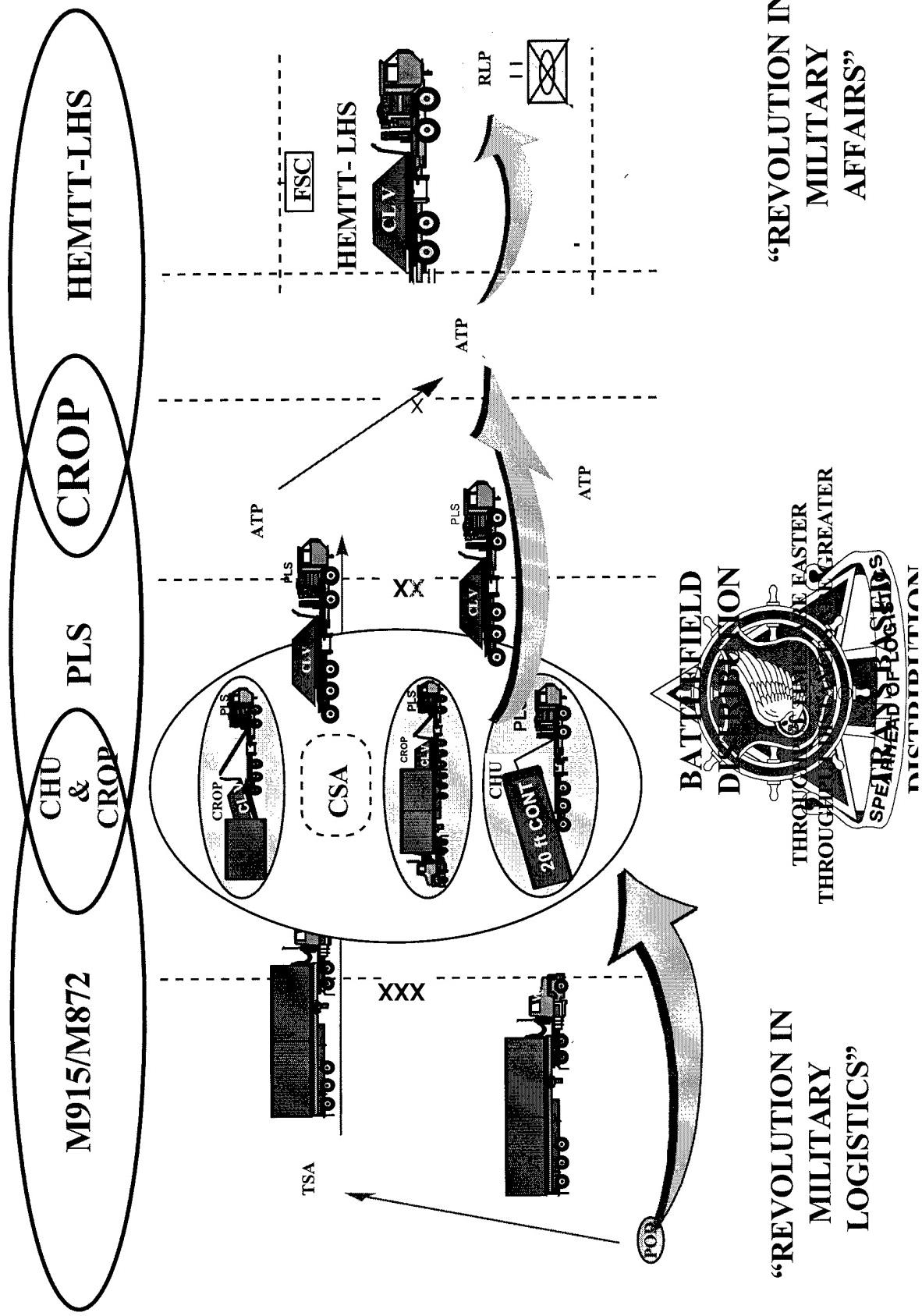
# Focused On Throughput

## Throughput Requires

- Distribution Enablers
- In-Transit Visibility
- Enhanced Transfer Capability
- Centralized Management



# Battlefield Distribution Enablers Linkage



## "REVOLUTION IN MILITARY LOGISTICS"

## 'REVOLUTION IN MILITARY AFFAIRS'

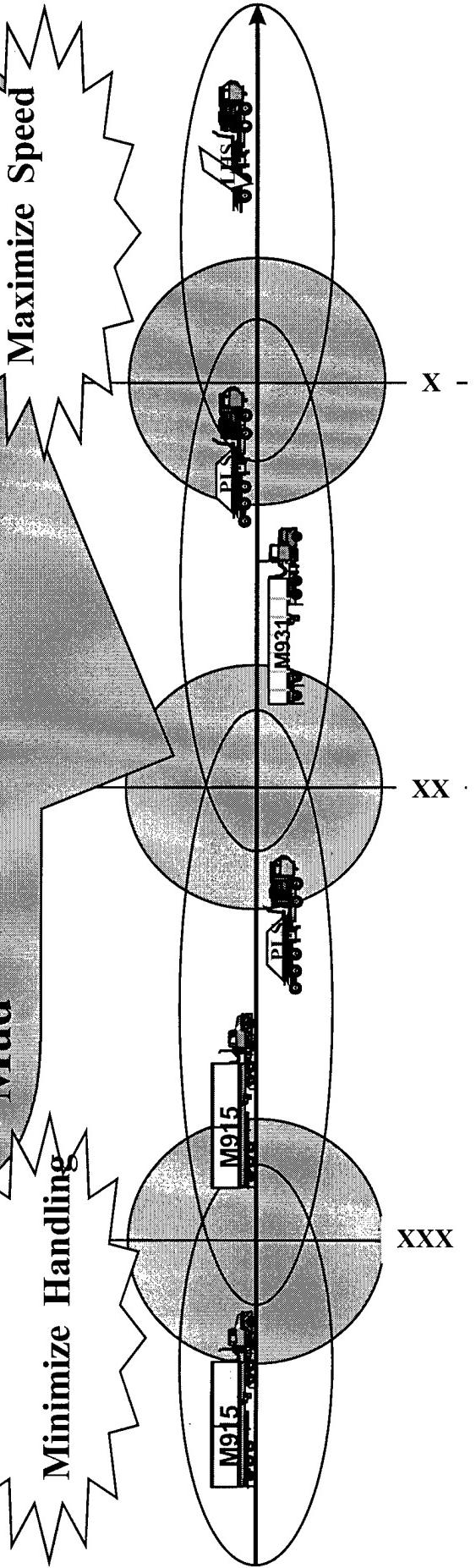
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# Intermodal Transfer Challenges

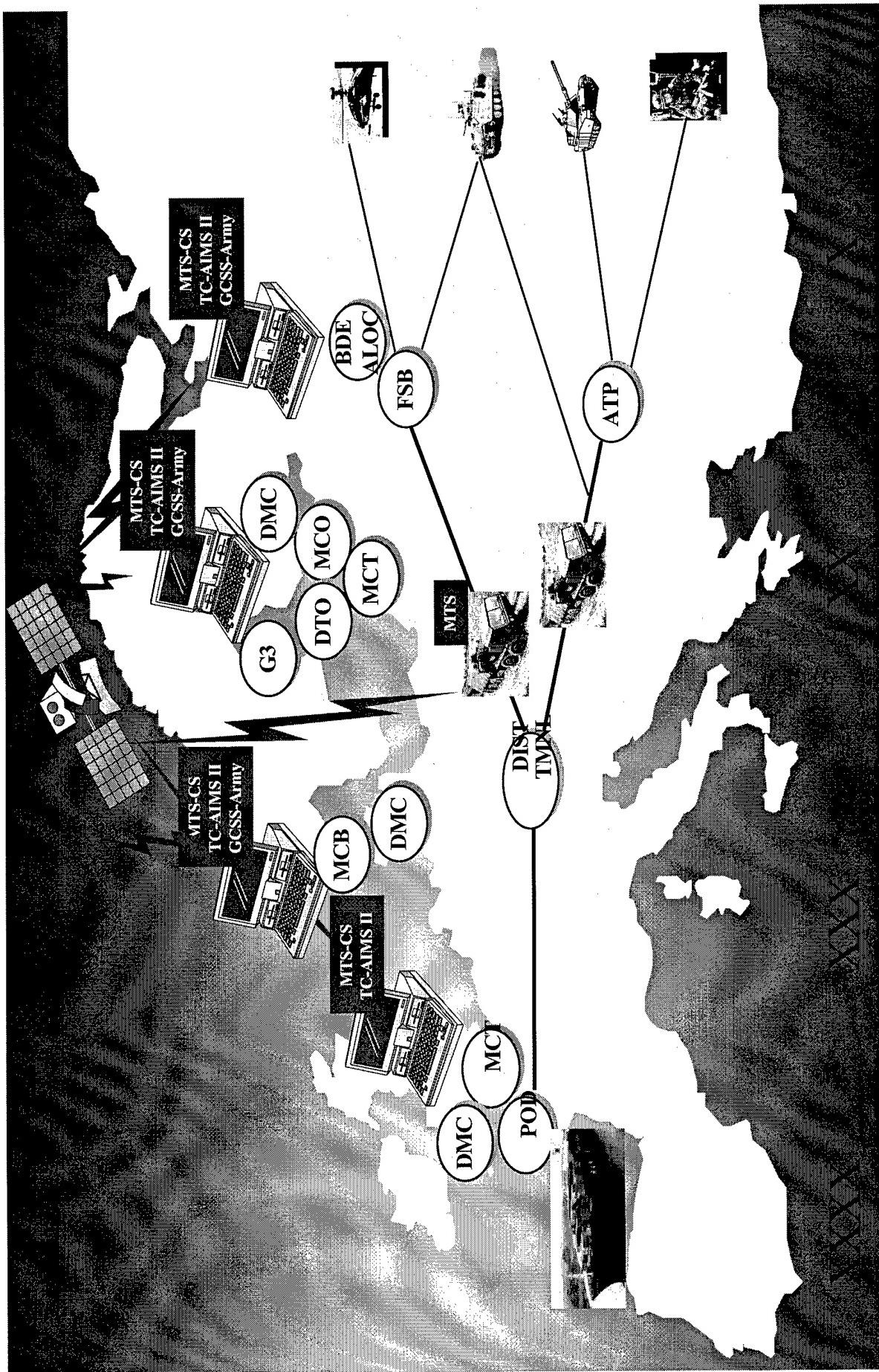
Need  
Enhanced  
Transfer  
Capability

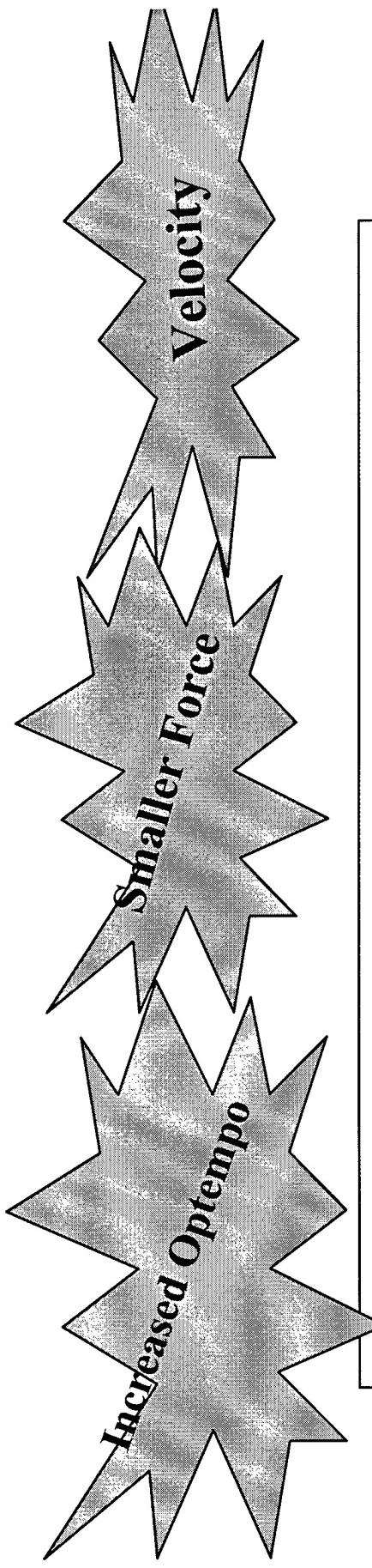
- Transfer from tractor/trailer to PLS/LHS
- Container Handling
  - 40 ft Containers
  - CROP Insertion/Extraction
- Transporting Container Handling Equipment
  - Air Transportability
  - Rough Terrain
  - Mud

Minimize Handling



# In-Transit Visibility

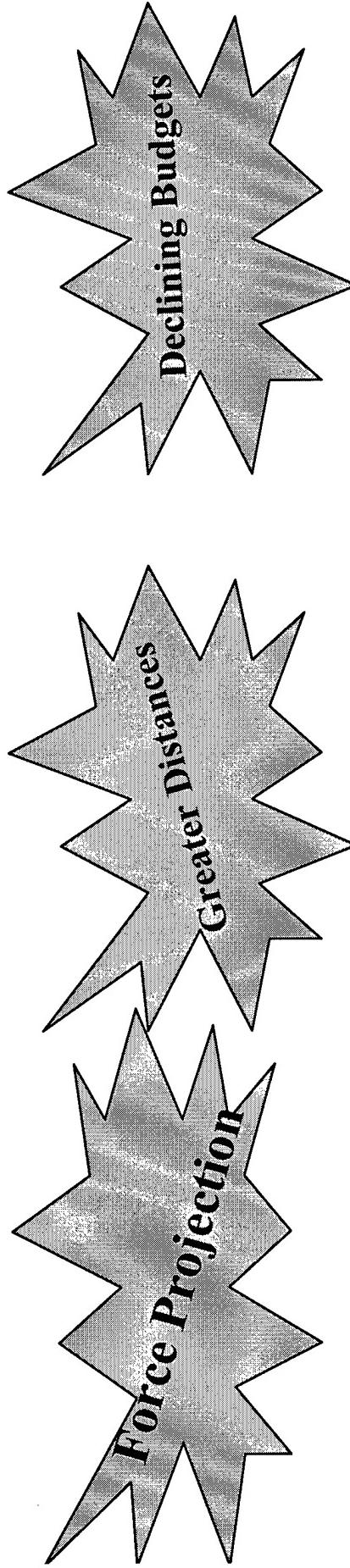




"We only win at war because we fight another government. If we fought private industry we would not last until noontime."

— R.I. Fitzhenry

## We need industries help



# What Can Industry Do to Make our TWV's Better?

## ► Increased Range

- Division battle space increased by 240%
- Need larger fuel capacity
- More fuel efficient engines

## ► Increased reliability

- Need reduced mechanical failures
- Improved sub-component reliability
- Reduce the number of critical parts
- Combine/simplify subsystems to reduce failure modes

## ► Lightweight & Rugged

- Larger battle-space
- More dependence on air transport
- Must withstand effects of terrain

## ► Better maintainability

- 11% fewer Division personnel
- Limited number of vehicles – no extras
- Improve diagnostics/prognostics
- Improve trouble-shooting methods
- Quick replacement parts and components
- Lube for life components

## ► Better fuel economy

- Army Goal-50% reduction in fuel consumption
- More fuel efficient power plants

## ► Reduced O&S Cost

- Less Defense \$
- Better to buy beans and bullets than wiper blades
- Top O&S drivers for trucks – batteries, tires, light bulbs, brake pads, and glow plugs.

## ► Increase Economic Useful Life

- Short \$ - can't buy new as often.
- Modernization through spares
- Increased corrosion protection

## ► Modularity

- Same as maintainability
- Must replace forward, fix to the rear

## ► Crew Protection

- Protect crew from injuries
- Improved vehicle survivability
- Lighter weight protection to increase payload

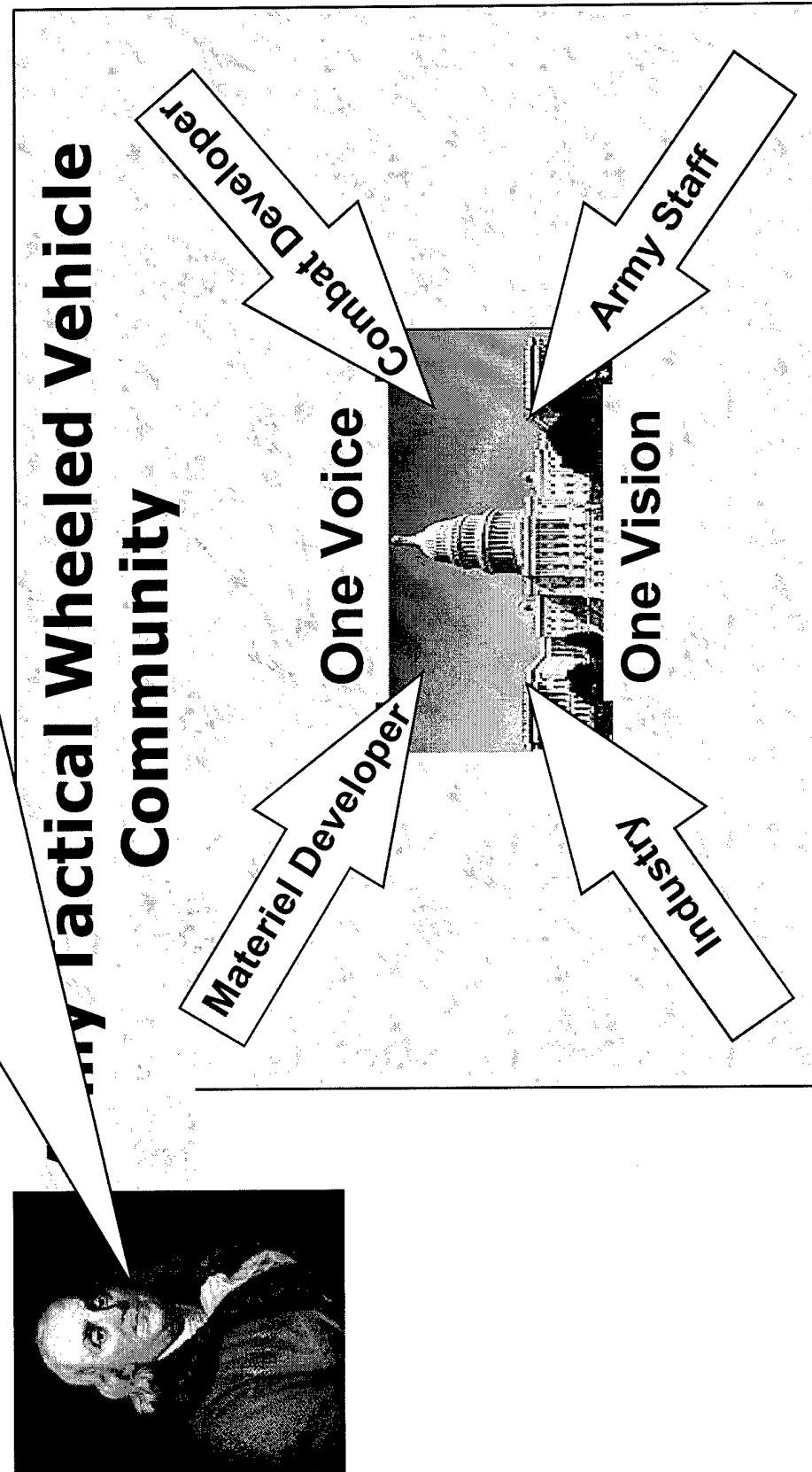
# **Goals & Objectives**

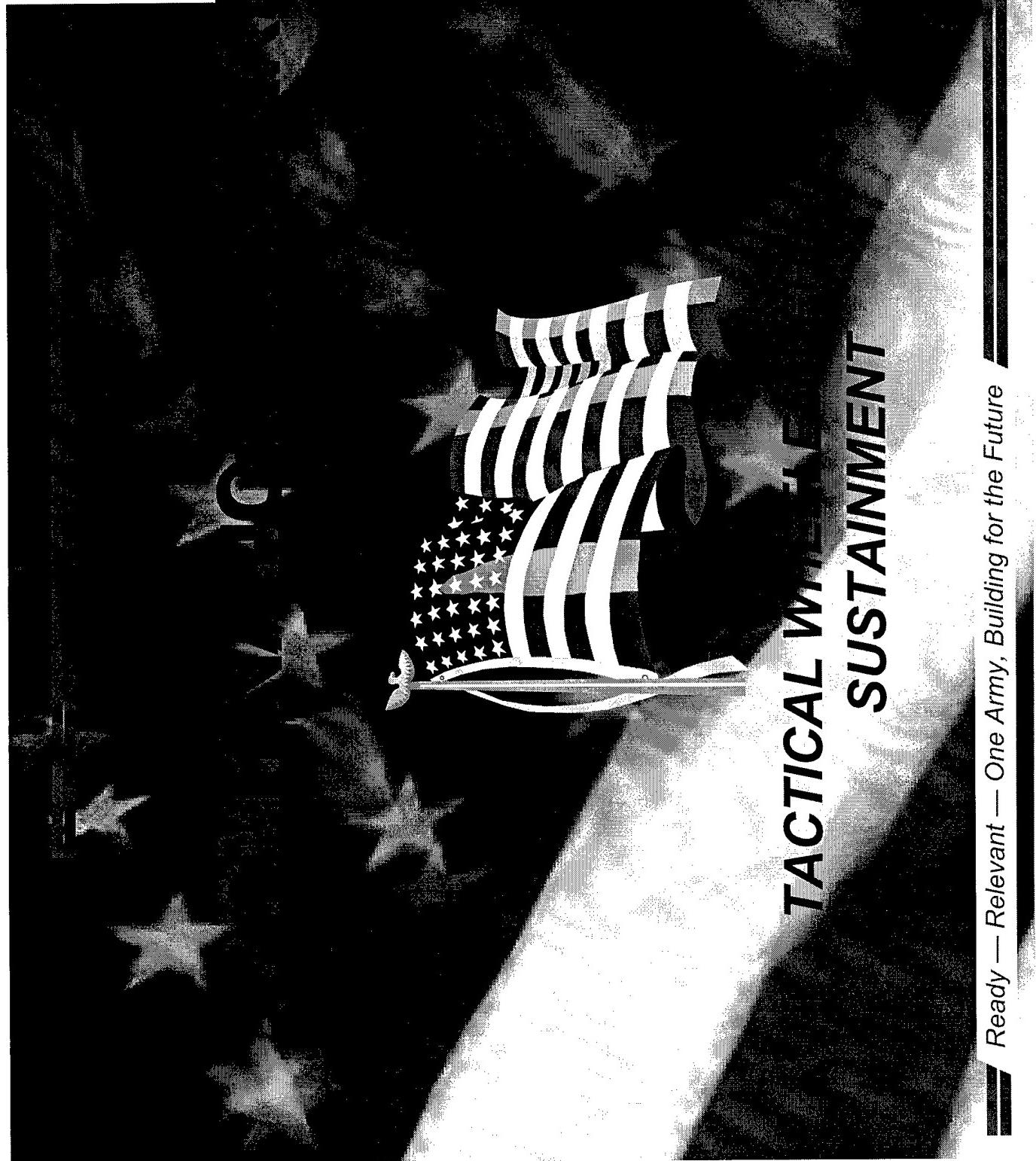
## **Transportation Summit 16-17 DEC 1998 TACOM**

- Improve the communications between the Combat Developer and Materiel Developer.
- Achieve a stronger alliance with industry.
- Develop a team strategy to efficiently adopt commercial technology in the "Spiral Modernization" of our legacy fleets.
- Speak with one voice

*"We must indeed all hang together, or, most assuredly, we shall all hang separately."*

*--Benjamin Franklin's reply in response to a John Hancock remark that the revolutionaries should be unanimous in their action; made at the signing of the Declaration of independence on July 4, 1776.*





## TACTICAL WAR SUSTAINMENT

Ready — Relevant — One Army, Building for the Future



S

Problems  
Meet War Head-on

• Solution - Executive  
Program for Select

• Major  
Family

• P

• Po

• M

• Ma

• J

• C

• G

• R

• M

• L

• T

• S

• E

• A

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• D

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• R

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• V

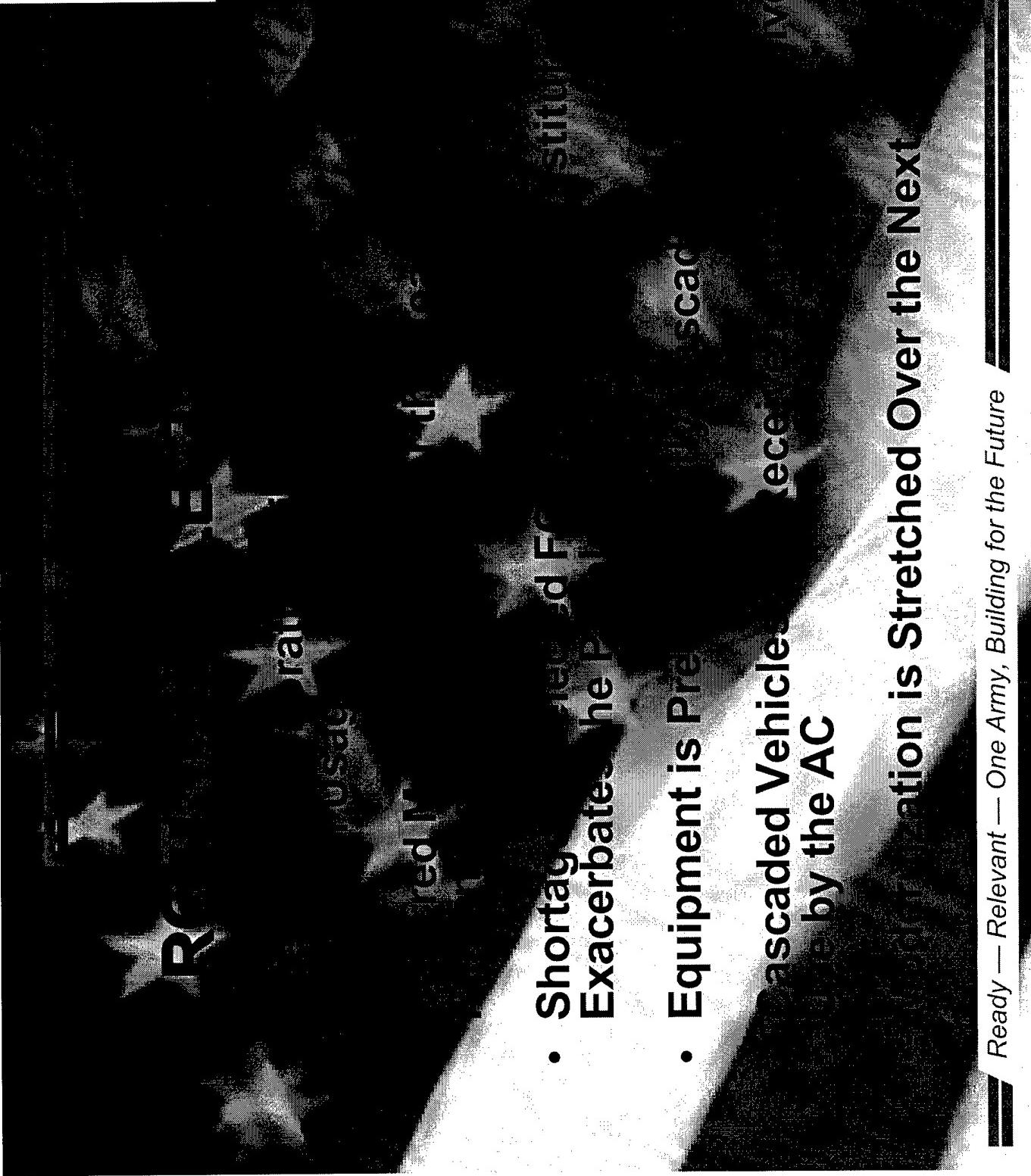
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• Y

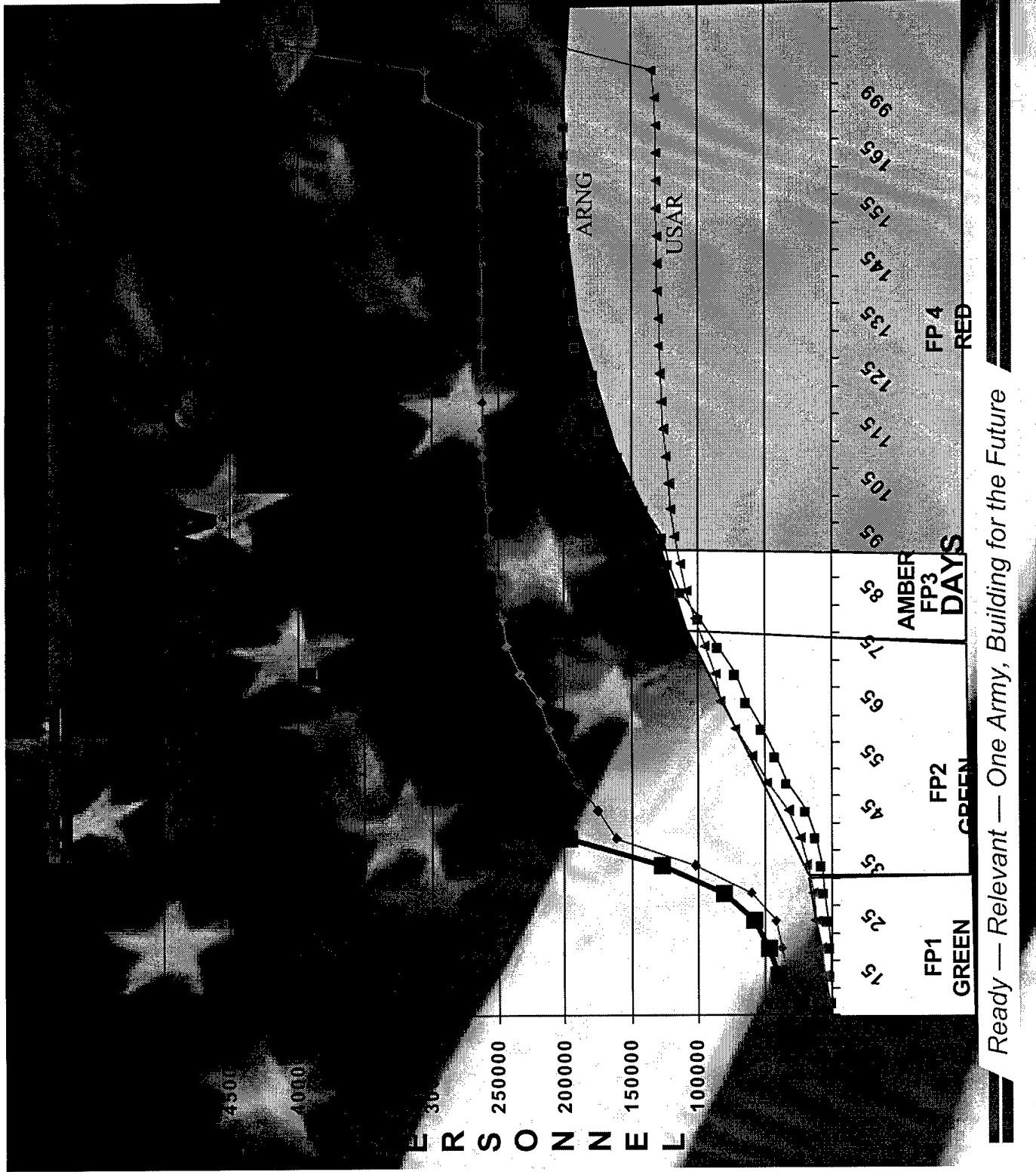
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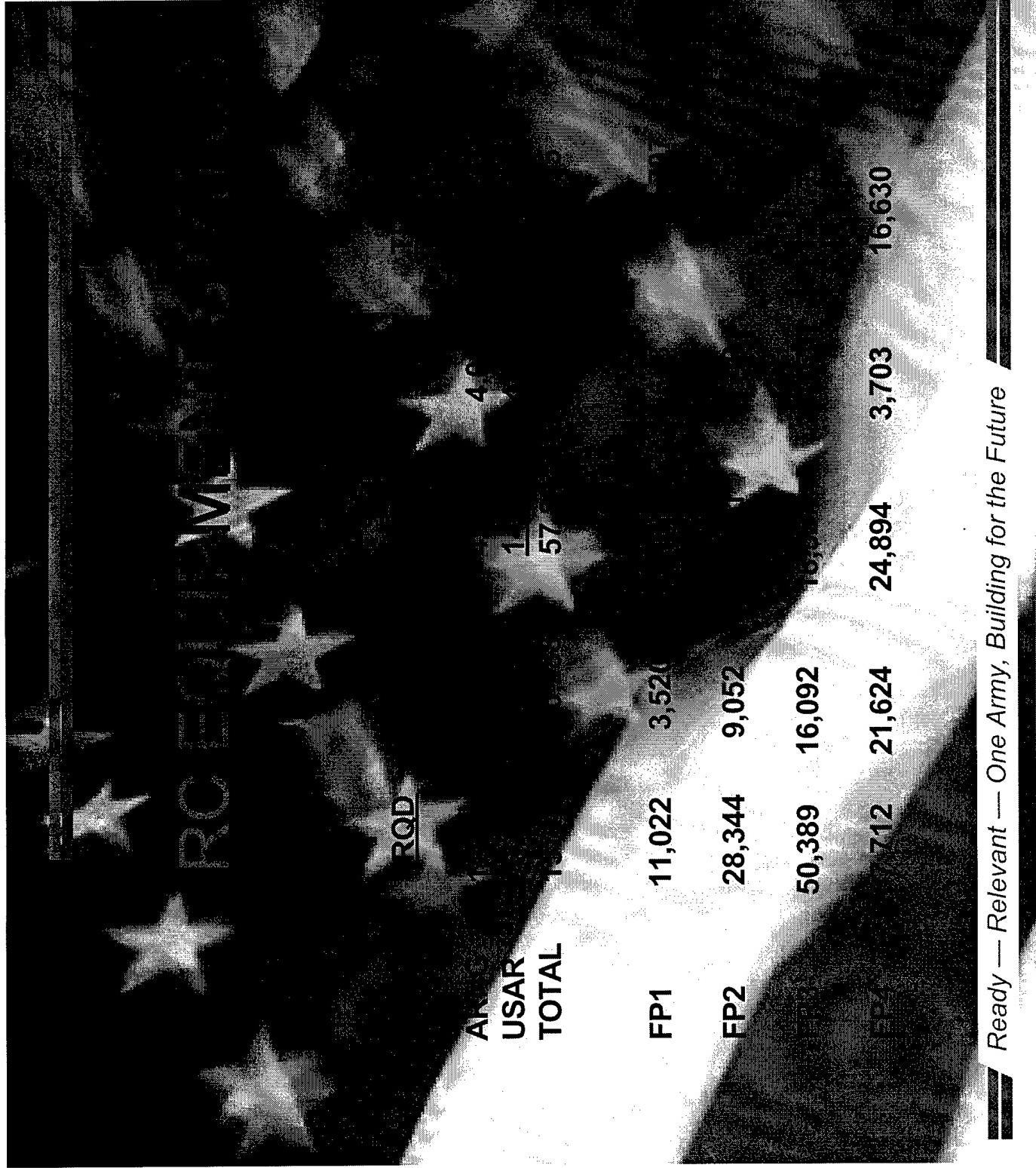


- Shortages Exacerbate the Problem
- Equipment is Priced by the AC
- Cascaded Vehicle
- Operation is Stretched Over the Next

— Ready — Relevant — One Army, Building for the Future



Ready — Relevant — One Army, Building for the Future



= Ready — Relevant — One Army, Building for the Future =

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**SOLDIERS DESERVE CAPABLE  
VEHICLES DESERVES AFFORD  
MODERNIZATION PLAN**

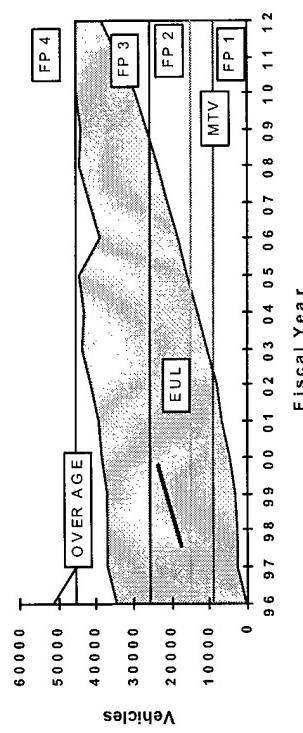
DC Want?

Supportable Fleets

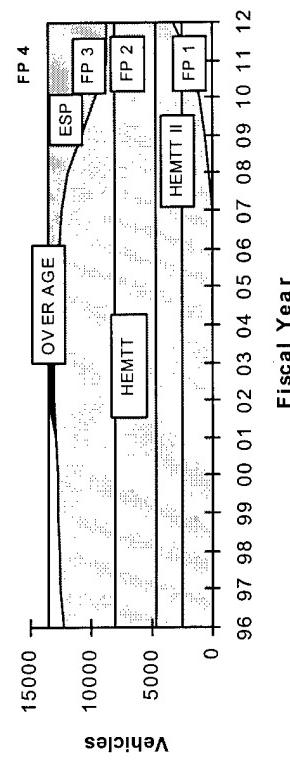
Ready — Relevant — One Army, Building for the Future



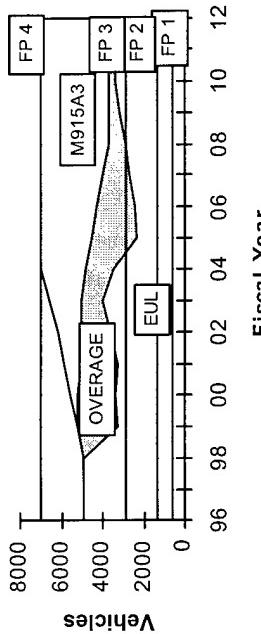
### MTV (5 TON)



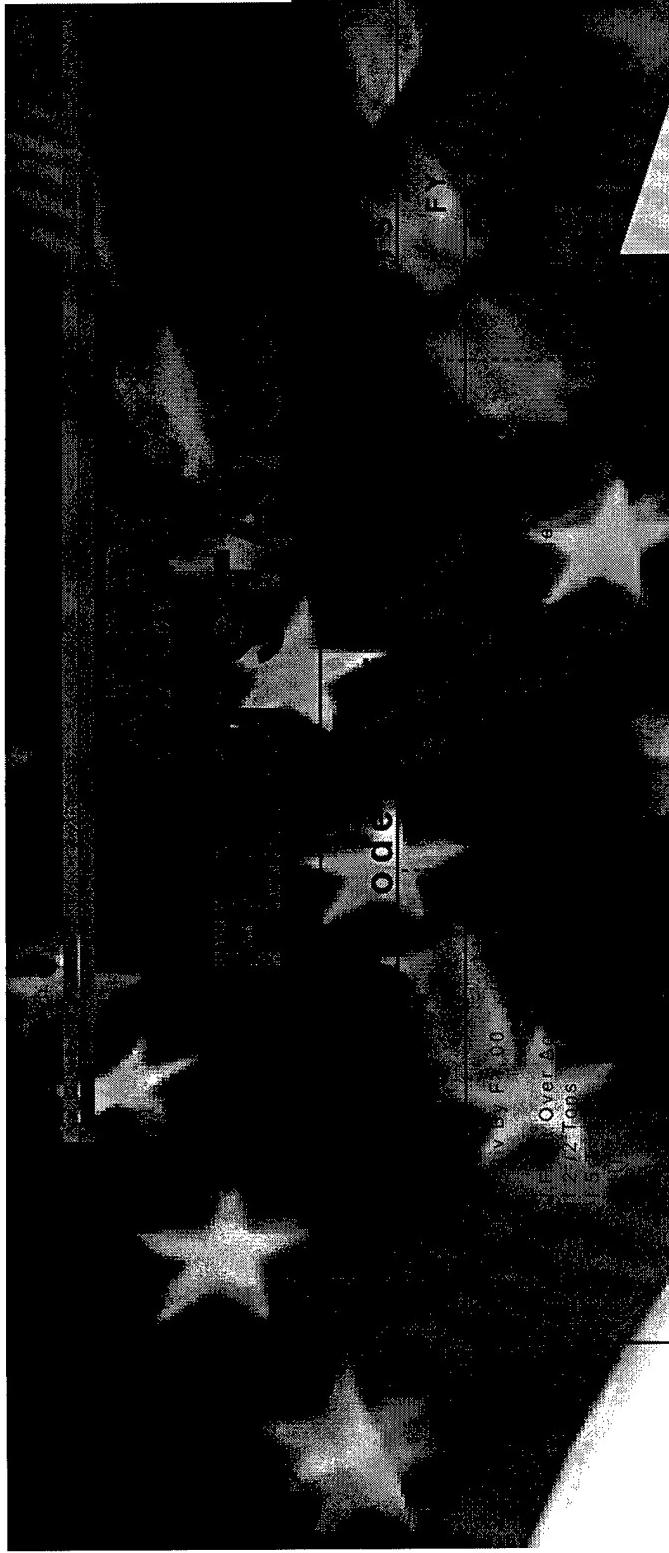
### HEMTT



### Line Haul



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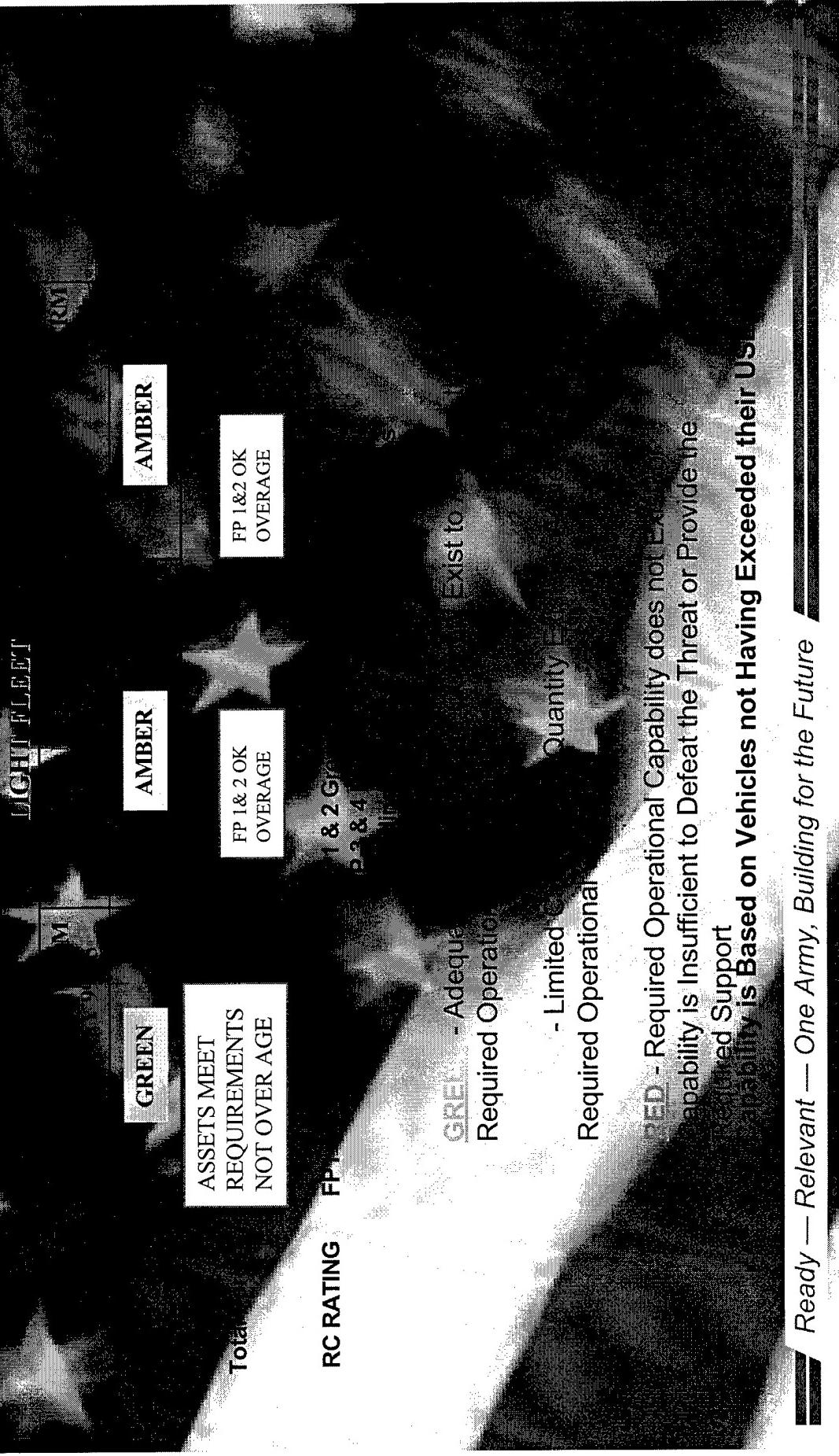
- HEMTT II Production For Over Match
- HMMWV Procurement

- FMTV Fielding Continues Throughout
- Remanufacture Of HMMWV, HEMTT
- Trailer Procurement
- Line Haul Procurement & Remanufacture
- HETS Procurement
- PLS
- HEMTT-LHS

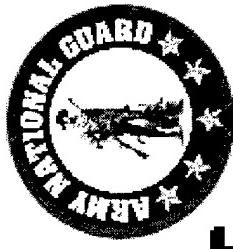
## “SOLDIERS DESERVE CAPABLE TWW, AND TAXPAYERS DESERVES AFFORDABILITY”

1997 MODERNIZATION PLAN

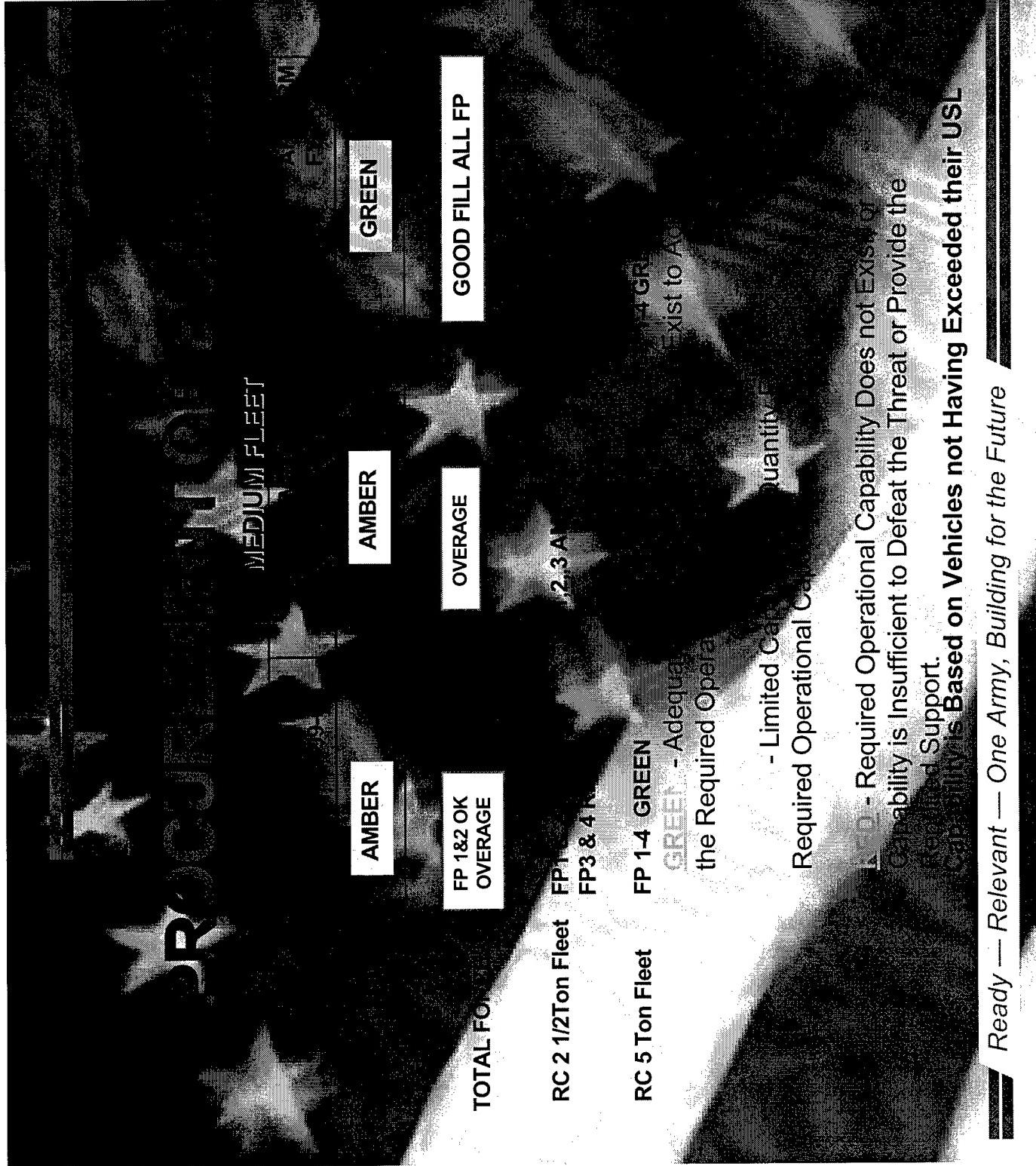
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Ready — Relevant — One Army, Building for the Future



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067



T

**HEAVY FLEET - TACTICAL DESIGN**

NEAR-TERM FY 99-05	GREEN
NEAR-TERM FY 99-05	GREEN

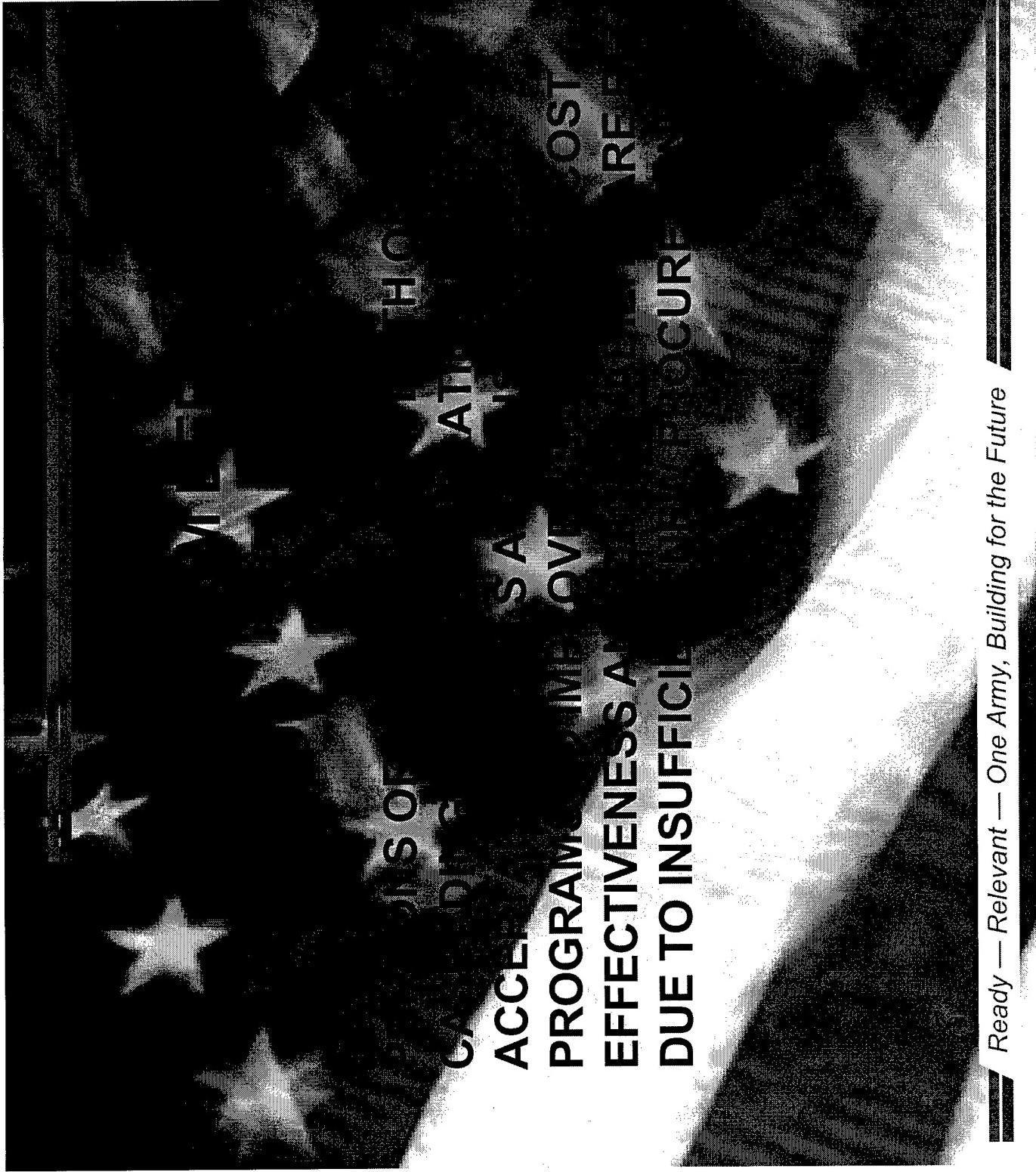
**HEAVY FLEET - COMMERCIAL DESIGN**

NEAR-TERM FY 99-05	GREEN
NEAR-TERM FY 99-05	GREEN

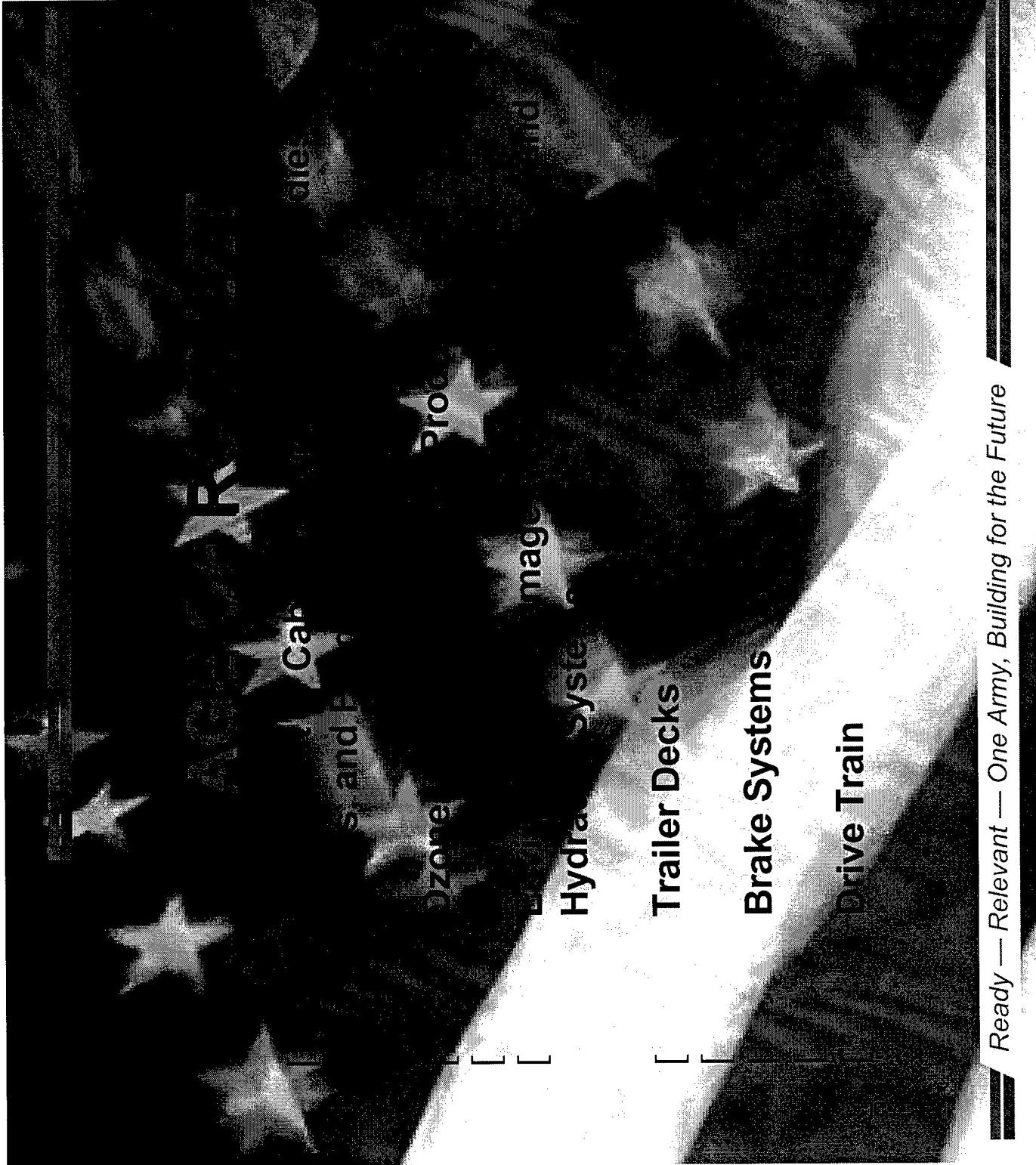
**AC & RC Heavy Fleets status at time shown**

**Based on Vehicles not Having Exceeded their USL**

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Ready — Relevant — One Army, Building for the Future



Ready — Relevant — One Army, Building for the Future



S



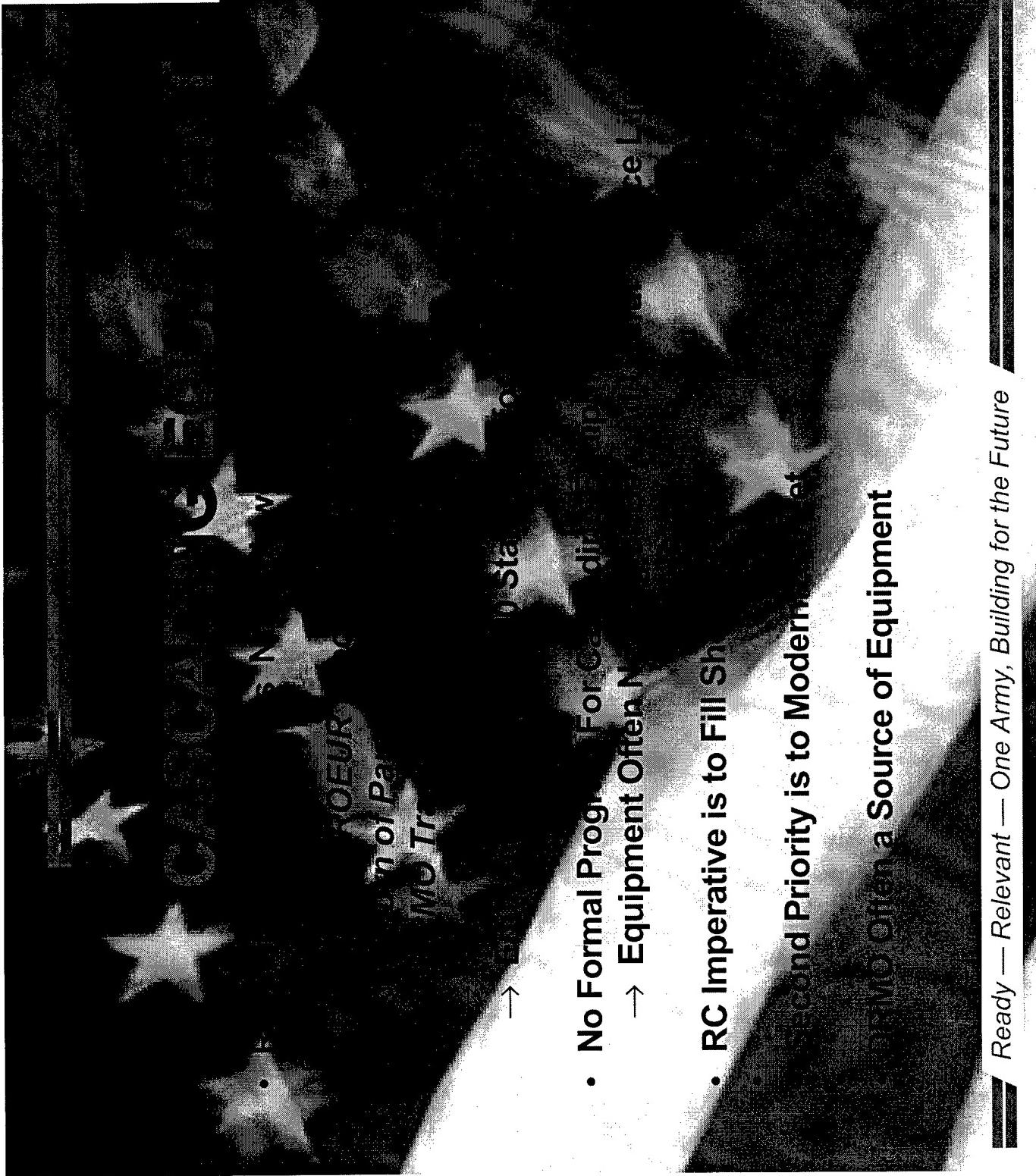
- Previous

- At Some Point, Tactics
- Rehabilitation to Rescue



- on D
- Labor Ho
- BLTM-TRM Model
- AC Deferred Mainte
- Cascading

Ready — Relevant — One Army, Building for the Future  
**RC Fleet Age is Major Factor in Future Maintenance Programs are Necessary**



- No Formal Program → Equipment Often Not Standard Priority is to Fill Sh
- RC Imperative is to Fill Sh
- RC is often a Source of Equipment

= Ready — Relevant — One Army, Building for the Future



T

Rocky Mountain  
National Guard  
Recruiters  
are here to help you  
achieve your goals.  
We're looking for  
the best people to  
join our team.  
If you're interested  
in learning more  
about our program,  
please contact us  
today!

### 3. M

- AC Modernization  
Trucks to RC

ide

### Procurement Program Meeting Requirements

S No



90-96

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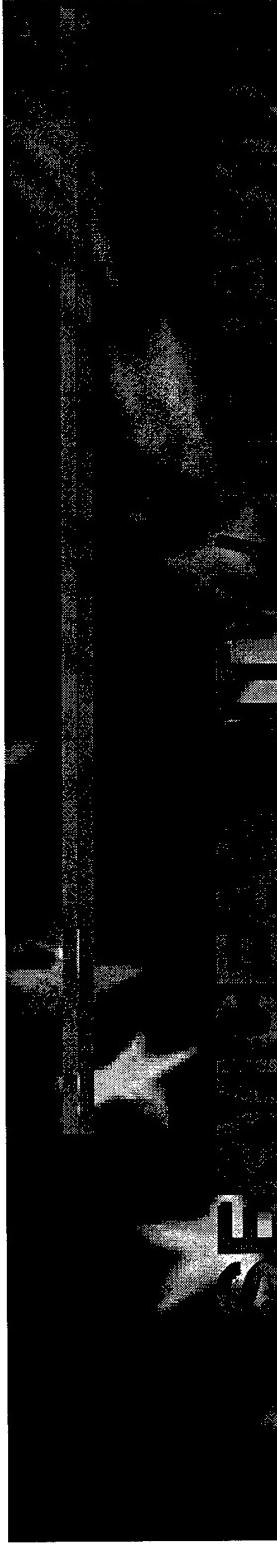
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**ARNG  
USAR**



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075



- More Accurate  
→ JCS Due Out Co.  
System/Method
- FMC Status vs TM 10/20  
→ Not Preferred Status  
→ Doors, Bumpers, etc.,  
Not a Measure of Reliability & Sustai  
nable Success Filling EOH Shortages



- Cascading
- New Procurement
- No Other Sustaining program



WELCOME NATIONAL

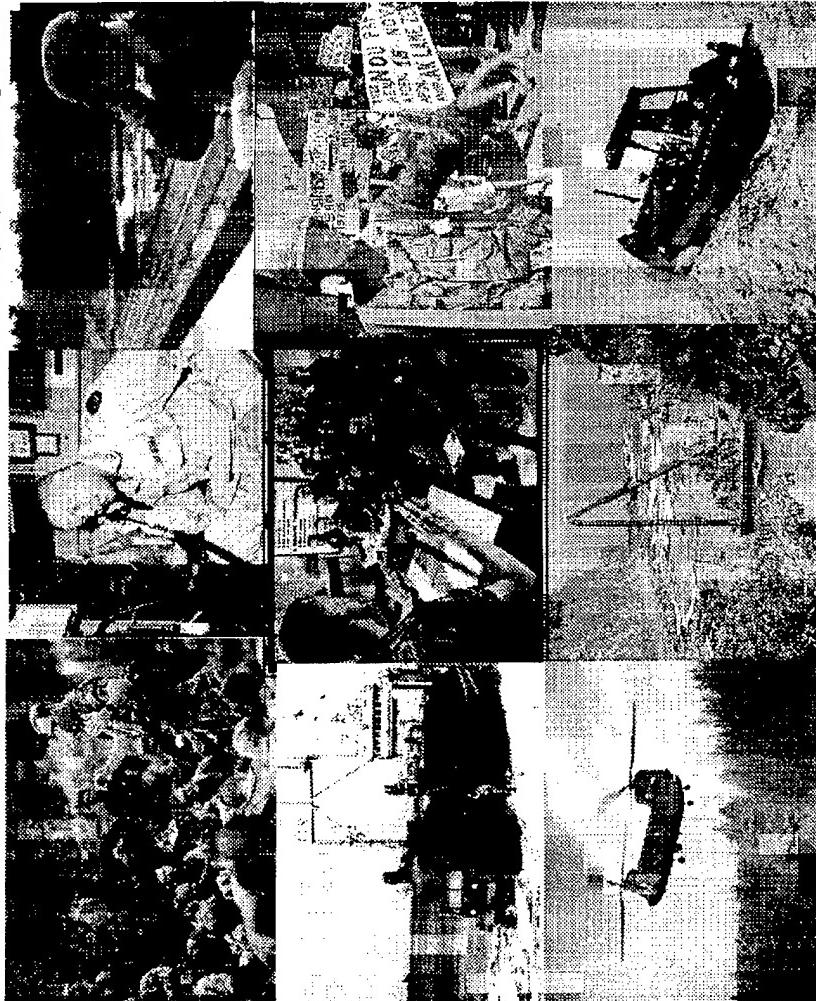
078

**U.S. ARMY  
RESERVE**

## State of the Army Reserve

### Briefing for the 1999

### Tactical Wheeled Vehicles Conference



**BG James R. Helmly**

**Deputy Chief, Army Reserve**

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## **AGENDA**

- Today's USAR Environment
- Tactical Wheeled Vehicles Status
- Initiatives
- Summary



## Missions

- **Provide trained and ready combat support**  
**/combat service support units to rapidly**  
**mobilize and deploy**





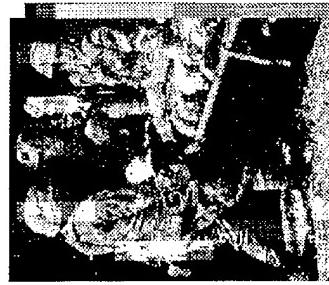
## **AMERICA'S ARMY RESERVE**

*Engaged Worldwide in Peace - Prepared for War*



### **Trained and ready**

- Combat service support/combat support
- 424 Force Support Package units
- 73% of the RC forces deployed for Bosnia



### **Power projection**

- Transportation Terminal Units
- Garrison support
- Installation medical support



### **Training readiness enablers**

- Initial Entry Training
- Lane training/battle simulations
- Skill training/professional education/ROTC

### **FULL SPECTRUM CAPABILITIES**

- Fully Engaged
- Ready, Relevant, Reliable
- Unique Capabilities
- Supporting the Nation & America's Army



JOINT ENDEAVOR/JOINT GUARD

### **Trained soldiers**

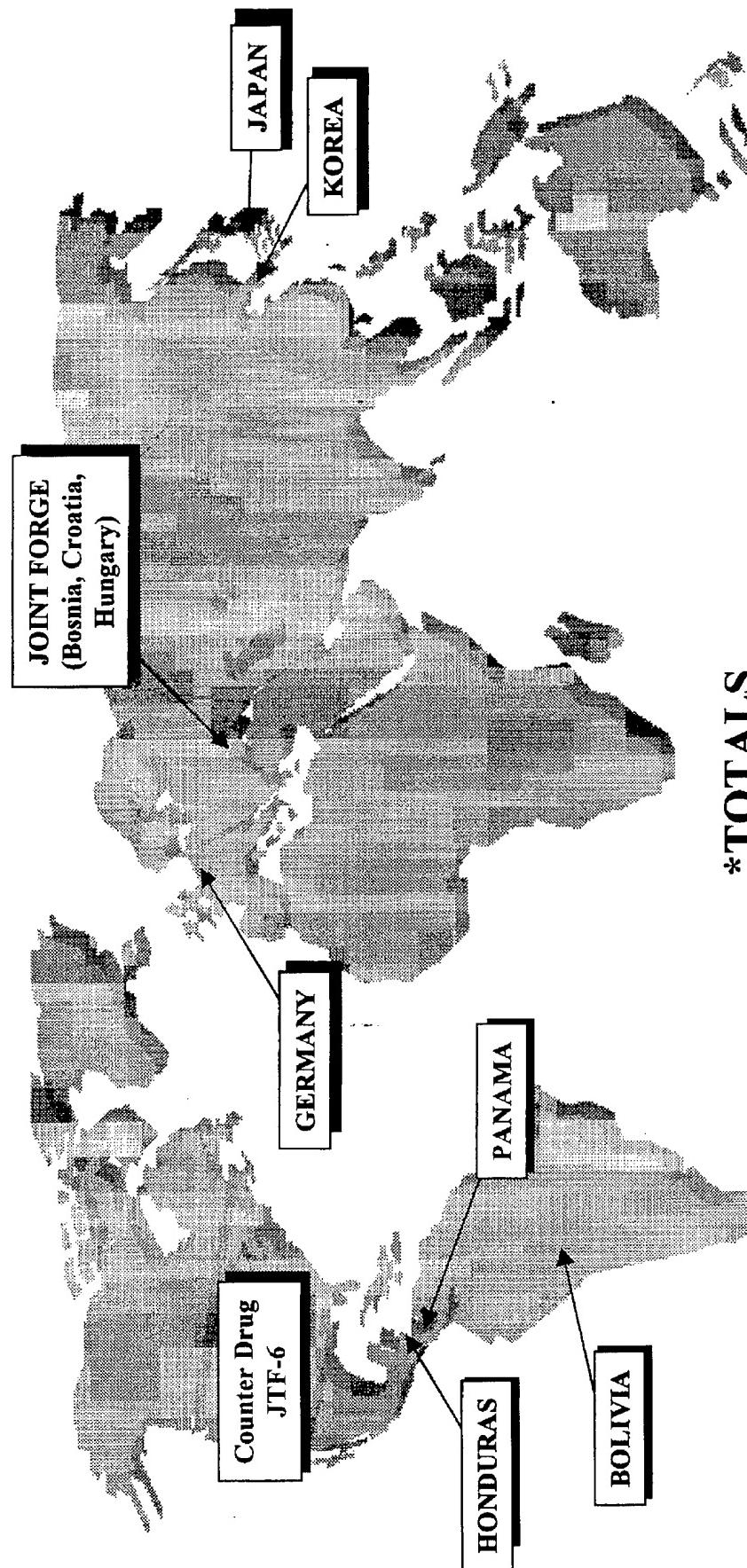
- Joint Readiness Units
- Individual Mobilization Augmentee
- IRR mobilization pool

### **Forward Presence**

- Peace Enforcement
- Humanitarian Support
- Domestic Support/Community Assistance
- Partnership for Peace
- Overseas Duty Training

**U.S. ARMY  
RESERVE**

## Army Reserve OPTEMPO



### \*TOTALS

AC / ARNG / USAR  
**23,821 / 2,157 / 1,468**  
(As of 21 January 1999)

**27,446\*** Soldiers Deployed  
on CONOPS or Exercises in  
58 Countries.

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Page 5

DAAR-LO

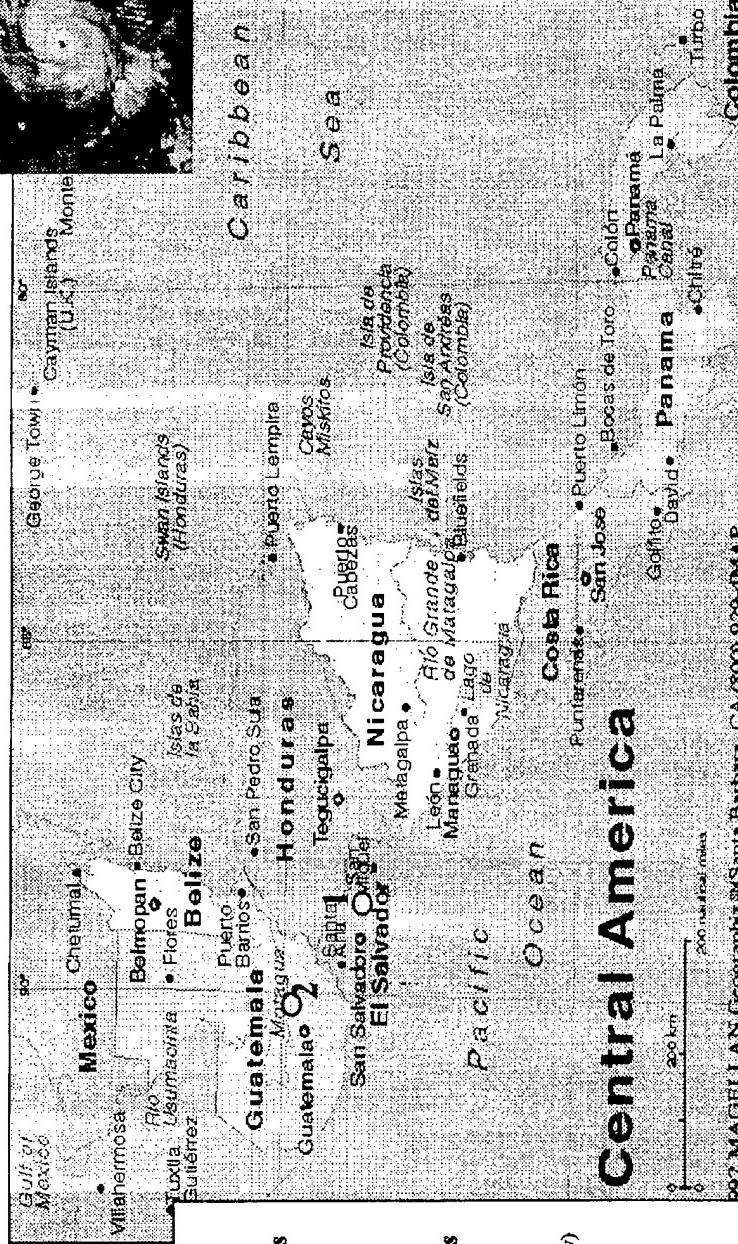
083

**U.S. ARMY  
RESERVE**

# **DISASTER RELIEF HURRICANE MITCH**

1908 - 1998

25 YEARS  
U.S. ARMY RESERVE



Engineer Battalions (Combat)(Heavy)  
Engineer Companies  
Combat Support Equipment  
Dump Truck  
Bridge  
Well Drilling  
Military Police Companies (Guard)  
AG Companies (Postal)  
Hospitals (Ch)(Spt)  
Veterinary Detachments  
Field Services Companies  
Water Purification Teams  
Civil Affairs Teams  
Public Affairs Teams  
Signal Corps Teams  
Direct Support Maintenance Sections  
Direct Support Supply Companies  
Chaplain Teams

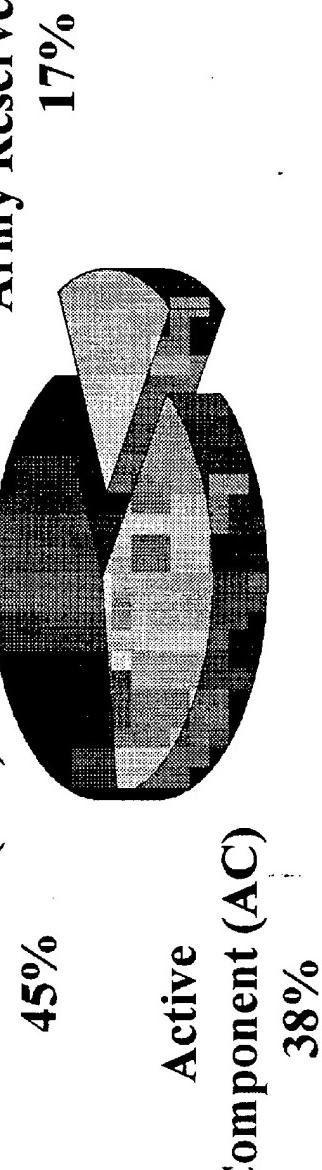
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## America's Army in Transition

FY 99 By Component (MTOE ONLY)

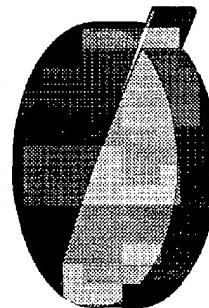
### National Guard (NG)



\*Cbt

NG 56%

USAR 1%



\*Cbt Spt

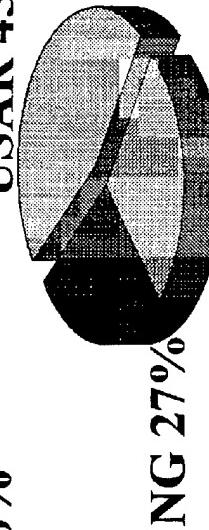
NG 36%

USAR 26%



\*Cbt Svc Spt

USAR 45%



AC 43%

AC 38%

AC 28%

AC 28%

SOURCE: SAMAS, MTF812, FY99LOCKED FORCE  
AS OF 27 JAN 99

\*MTOE Units Totals Only

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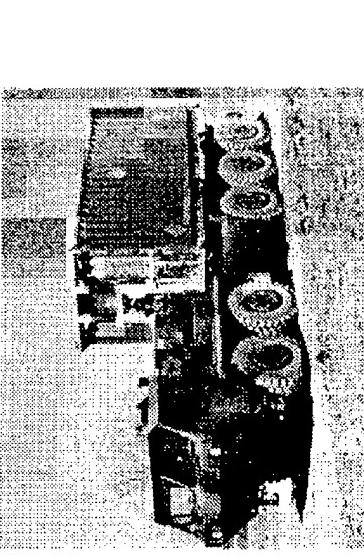
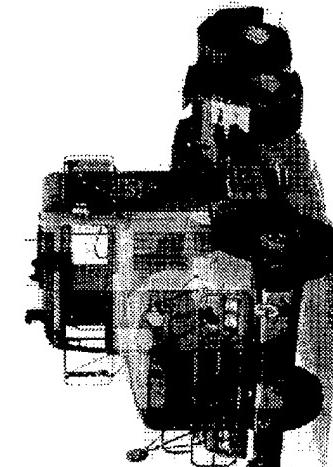
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## America's Army's Battlefield Logisticians

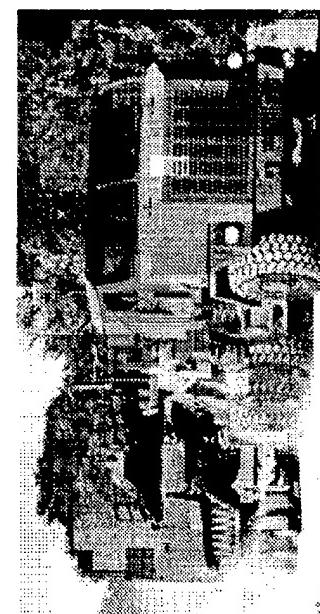
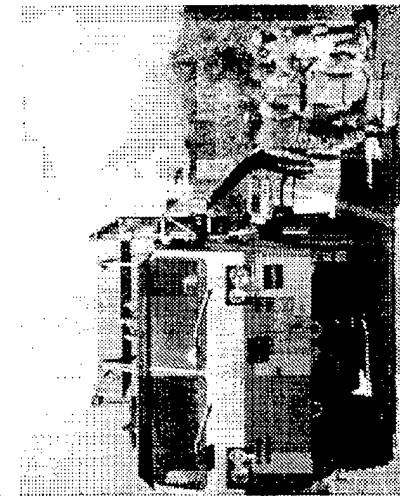
**USAR Core Competencies**  
(percent of Total Army assets)

- Petroleum Supply Battalions - 92%
- Railway Units - 100%
- EPW Brigades - 100%
- Chemical Battalions - 75%
- Petroleum Groups - 50%
- Medical Brigades - 85%
- Transportation Groups - 80%
- Water Supply Battalions - 100%
- Motor Battalions - 78%
- Civil Affairs units - 97%



### Common USAR Equipment (Required Unit Equipment)

- HETs - 485
- HMMWVs - 10,143
- 5 Ton Trucks - 8,084
- 2 1/2 Ton Trucks - 4,676
- Line Haul Tractors - 2094
- Palletized Load Systems - 711
- HEMTT Wreckers - 339
- 20 Ton Dump Trucks - 456
- Tactical Firetrucks - 79
- HEMTT Common Bridge Trans - 284

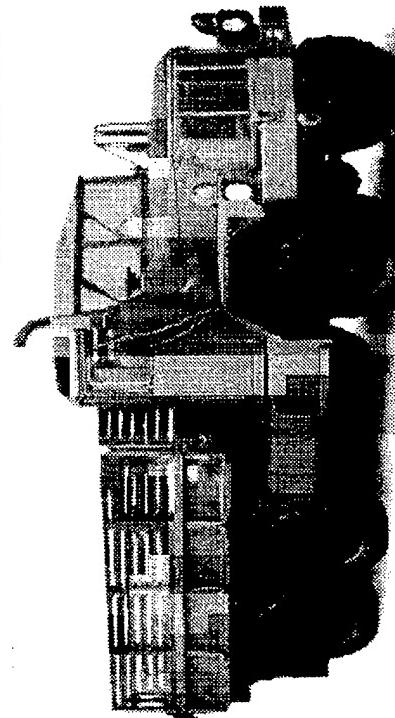


**Mission Success Requires A Modernized, Well-Maintained,  
Tactical Wheeled Vehicle Fleet**

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**U.S. ARMY  
RESERVE**



## Army Reserve Tactical Wheeled Vehicles Status



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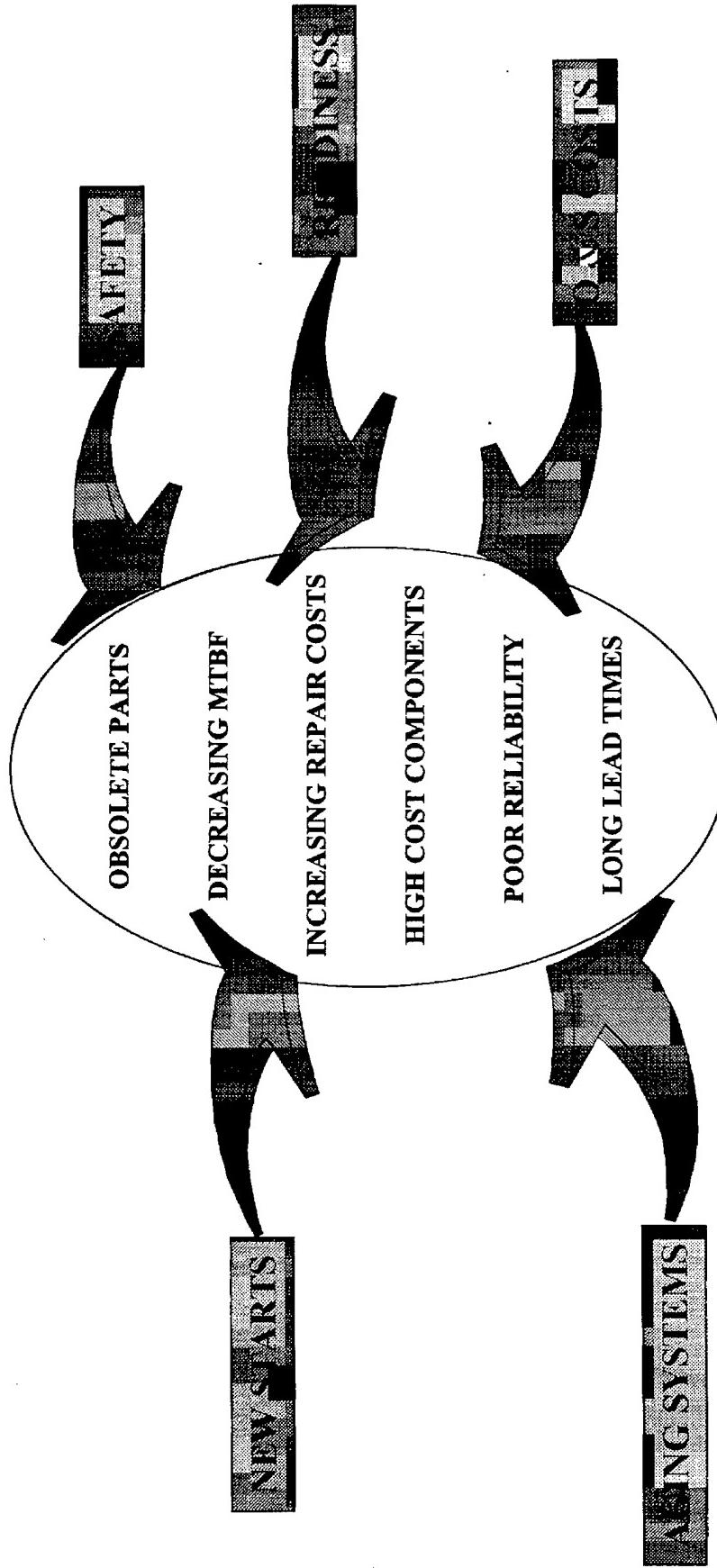
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**U.S. ARMY  
RESERVE**



## **USAR TRUCK FLEET SCENARIO**



**U.S. ARMY  
RESERVE**

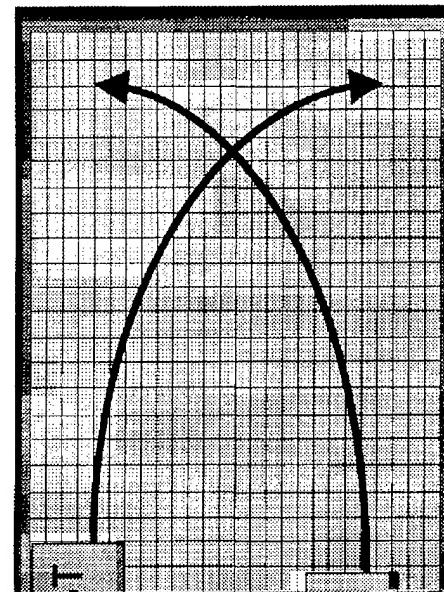


# USAR/INDUSTRY PARTNERSHIP SOLUTIONS

**MODIFICATION**

**REMANUFACTURE**

**UPGRADE**



**C & S COST**

**READYNESS**

**UPGRADE**

**MODERNIZATION  
THRU  
SPARES**

**TIME**

**TECH  
INSERTION**

**BEST  
BUSINESS  
PRACTICES**

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# **U.S. ARMY RESERVE America's Army Reserve**

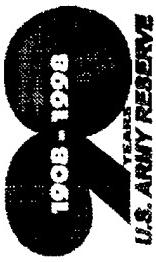
## **..... the Future Direction**

### **Partnering With The Truck Industry**

- REMANUFACTURE
- TECH INSERTIONS
- PRODUCT IMPROVEMENTS
- REPAIR PARTS DISTRIBUTION
- MODERNIZATION THRU SPARES
- NEW BUYS
- PRODUCTION SURGE
- MULTI-USE/PURPOSE VEHICLES
- MILITARY ADAPTATION OF COMMERCIAL MODELS

USAR fielding strategy is tiered to field FP1 & 2 with new vehicles and remanufacturing the remaining vehicles for the lower tiers.

# **SUSTAINMENT INITIATIVES**



## **HEMTT Common Bridge Transport (CBT):**

	QTY	NEW COST	CONVERSION	COST SAVING
FY95	100	\$10,300,000	\$8,500,000	\$1,800,000
FY96	102	\$10,506,000	\$8,670,000	\$1,836,000
FY97	28	\$2,884,000	\$2,380,000	\$ 504,000
FY98	10	\$1,030,000	\$ 850,000	\$ 180,000
FY99	40	\$4,120,000	\$3,400,000	\$ 720,000

- Army Reserve Has Five MTOE Multi-Role Bridge Companies
- Combines Both Float and Fixed Bridging Into One Unit
- Will Be FSP 1 or 2
- Each Company Authorized 56 CBTs
- HEMTT CBT Is a Pacing Item.
- USAR Initiated a Program to Convert HEMTTS to the CBTs to Meet Requirement
- WORK TO BE COMPLETED AT VARIOUS SITES IN U.S. (OSHKOSH, WI)

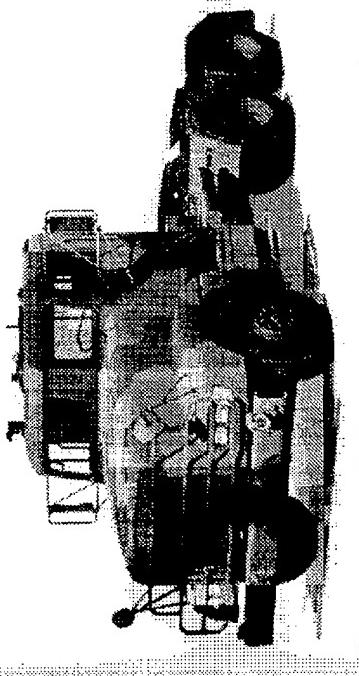
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## America's Army Reserve

Working With The Trucking Industry to Break Paradigms  
M915 TO M915A4:



	FY98	QTY	NEW COST	REFURB	COST SAVING
		2	\$ 234,000	\$ 169,000	\$ 65,000
	FY99	60	\$7,020,000	\$5,070,000	\$1,950,000

### Tactical Wheeled Advanced Technology Demonstrator--Proven Performance:

- Army Reserve Force XXI Contribution
- Showcased Potential Applications of Emerging Technologies
- Decreased Costly Vehicle Life Cycle Maintenance
- Enhanced Crew Performance and Safety
- Developed Smart Business Practices

#### *Enhancement Package*

Muffler Silencer  
Proheat System  
Rust Protectant

#### *Efficiency Package*

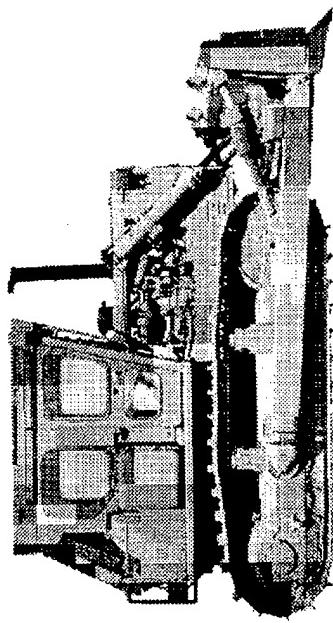
Dial your Oil Change  
Never Lo Oil System  
Prelube Starter

#### *Safety Package*

Electronic Stroke Alert  
Collision Avoidance System  
Heads Up Display



## OTHER INITIATIVES



### D7F Dozers:

	QTY	NEW COST	REFURB	COST SAVING
FY96	151	\$36,240,000	\$12,042,000	\$24,198,000
FY97	73	\$17,520,000	\$ 5,822,000	\$11,698,000
FY98	6	\$ 1,440,000	\$ 418,600	\$1,021,4000

USARC Conducted Comprehensive Inspection and Analysis of the Total USAR D7F Fleet.

- TACOM/Partners in Industry Designed and Implemented a Total Rebuild Program.
- Took Broken Down System, Repaired It, Returned New System-With a New Warranty.
- 230 of the USAR D7F Fleet Has Been Repaired.

WORK TO BE COMPLETED AT VARIOUS CATERPILLAR SITES IN U.S. (IL, WI, AL, SC, IA, NY, MI, AK, PA, CA, FL, MA, VA, NM, KY, MD, AR, PR, OK, MN, CO)

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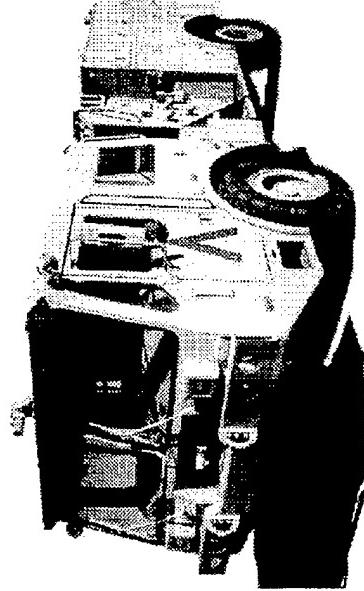
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## FUTURE INITIATIVES

### Fire Truck Assessment:

FY99	QTY	EST NEW COST	EST GLIDER COST*
	75	\$26,250,000	\$15,000,000



### • Industry Partner Conducted Comprehensive Inspection and Analysis of the Current Army Reserve MAC I Fire Trucks.

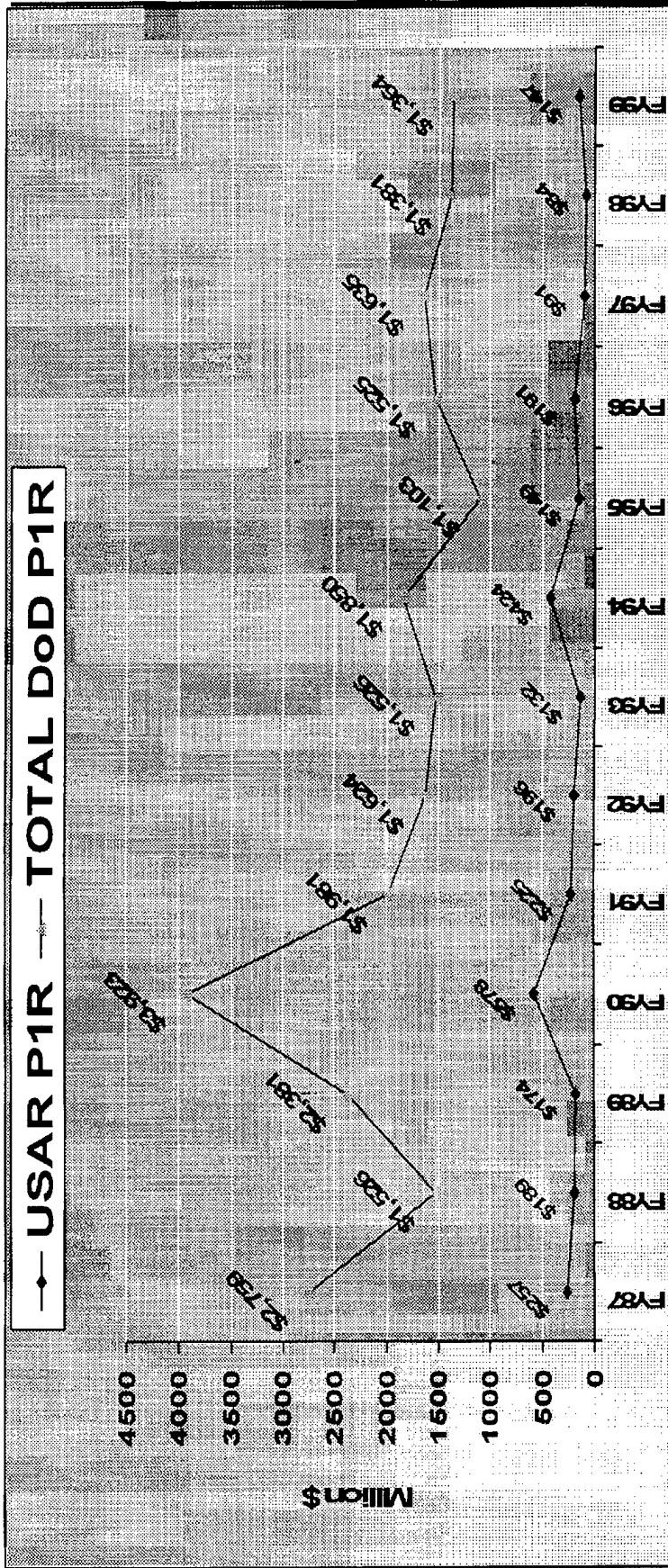
- Objective to Identify and Document Any Major Safety or Operational Problems and Shortfalls.
- Visited 13 Sites, Major Manufacturers, and Interfaced With Users and TACOM.
- Recommendations Provided for Best Method of Overcoming the Problems and Shortfalls.
- Options Include IROAN Program, Glidering the Fire Trucks, Partial Upgrades, or Buying New Vehicles. Decision Pending.
- DA Prepared to Buy HEMTT Firetrucks for USAR.

\*Gilding Firetruck would require retaining the chassis and axles

# Reserve Components

## Procurement Exhibit (P-1R)

—♦— USAR P1R —— TOTAL DoD P1R



The Reserve Components Procurement Exhibit (P-1R) is a subset of the Department of Defense Procurement Programs (P-1) exhibit and reflects the Service estimate for those funds which will be used to procure equipment for the National Guard and Reserve. (Does not include NGREA or Congressional Adds.) The P-1R is only a snapshot of a point in time. Fiscal resources, programmatic, and priority changes may have revised data shown above.

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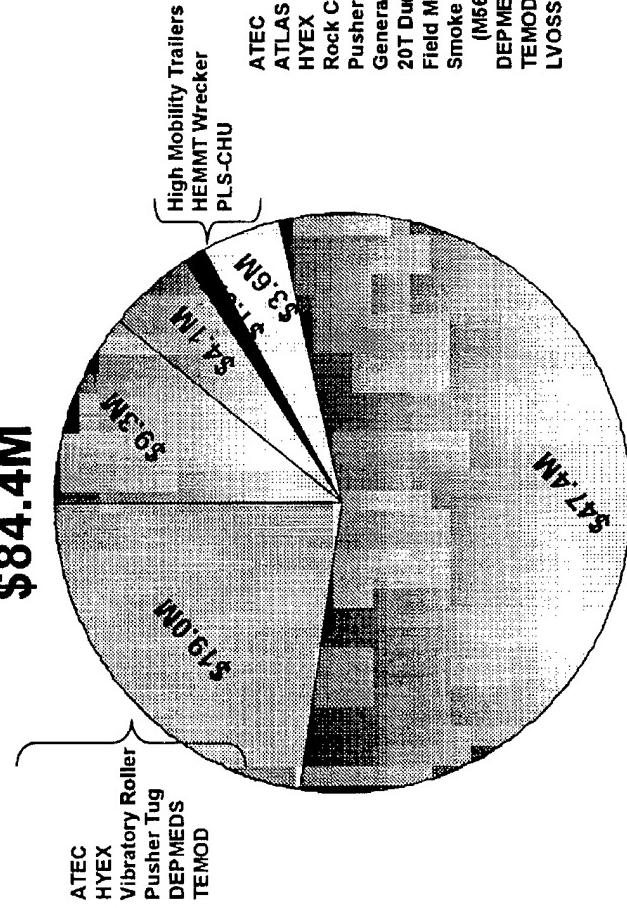
DAAR-LO

# U.S. ARMY RESERVE

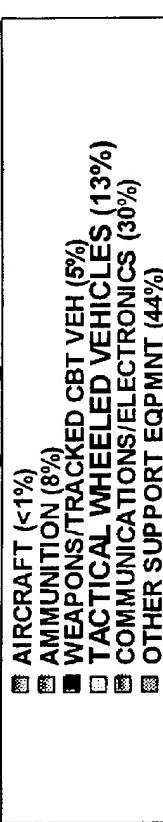
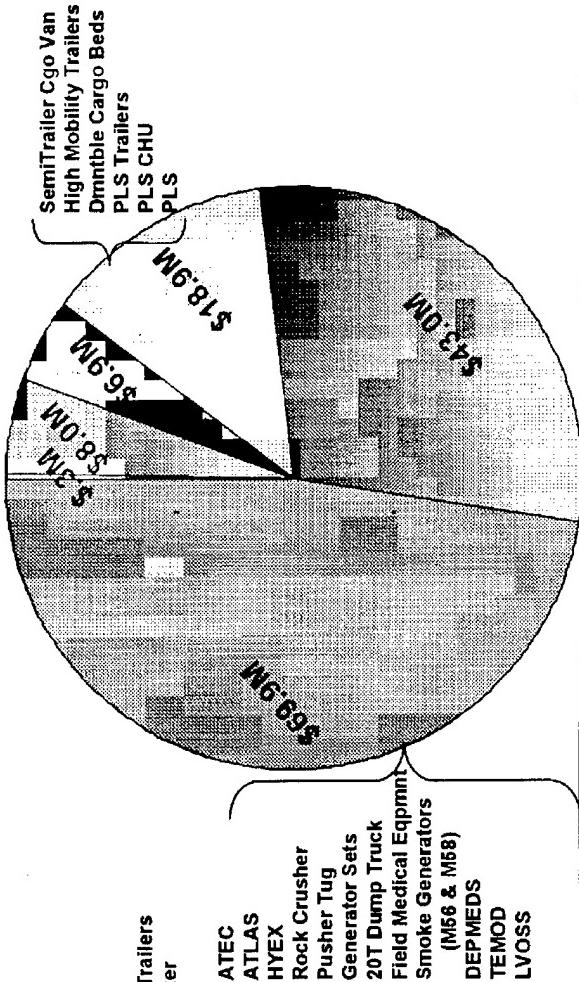


## PRESIDENT'S BUDGET P1R

FY98 P1R  
\$84.4M



FY99 P1R  
\$147.0M



Ready — Relevant — One Army, Building for the Future

**U.S. ARMY  
RESERVE**



## CONGRESSIONAL ADDS

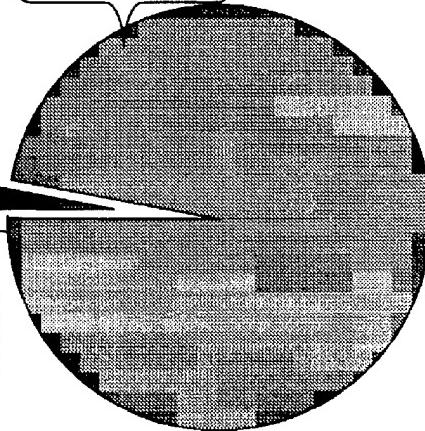
### FY98 Congressional Adds

USAR Adds \$8.0M



USAR  
\$8M - All Terrain Crane

ARNG  
\$83M - UH-60 Blackhawks  
\$ 3M - UH-60L Blackhawk Kits  
\$95M - Bradley FV Upgrades  
\$40M - FASV  
\$56M - Paladin  
\$ 5M - MELIOS NVD



\$282.0M

**CONGRESSIONAL ADDS ARE COMBAT ARMS AND COMBAT SUPPORT ORIENTED**

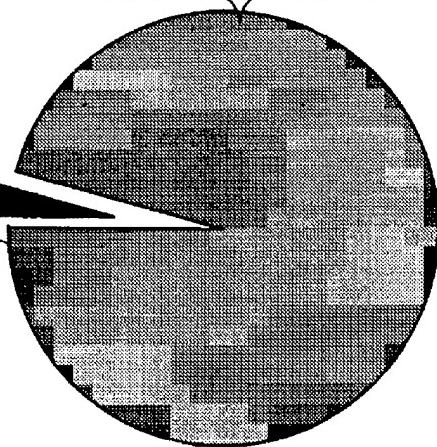
### FY99 Congressional Adds

USAR Adds \$9.5M



USAR  
\$8M - All Terrain Crane  
\$1.5M - HYEX  
Laser Leveler

ARNG  
\$58.1M - UH-60 Blackhawk  
\$13.2M - Medium Truck ESP  
\$30.0M - MLRS  
\$ 3.0M - R2000 Eng Flush Sys  
\$70.0M - Bradley Upgrades  
\$44.0M - SINCgars  
\$ 3.0M - AH-64 VMES  
\$ 3.0M - Engagement Skills Trainer



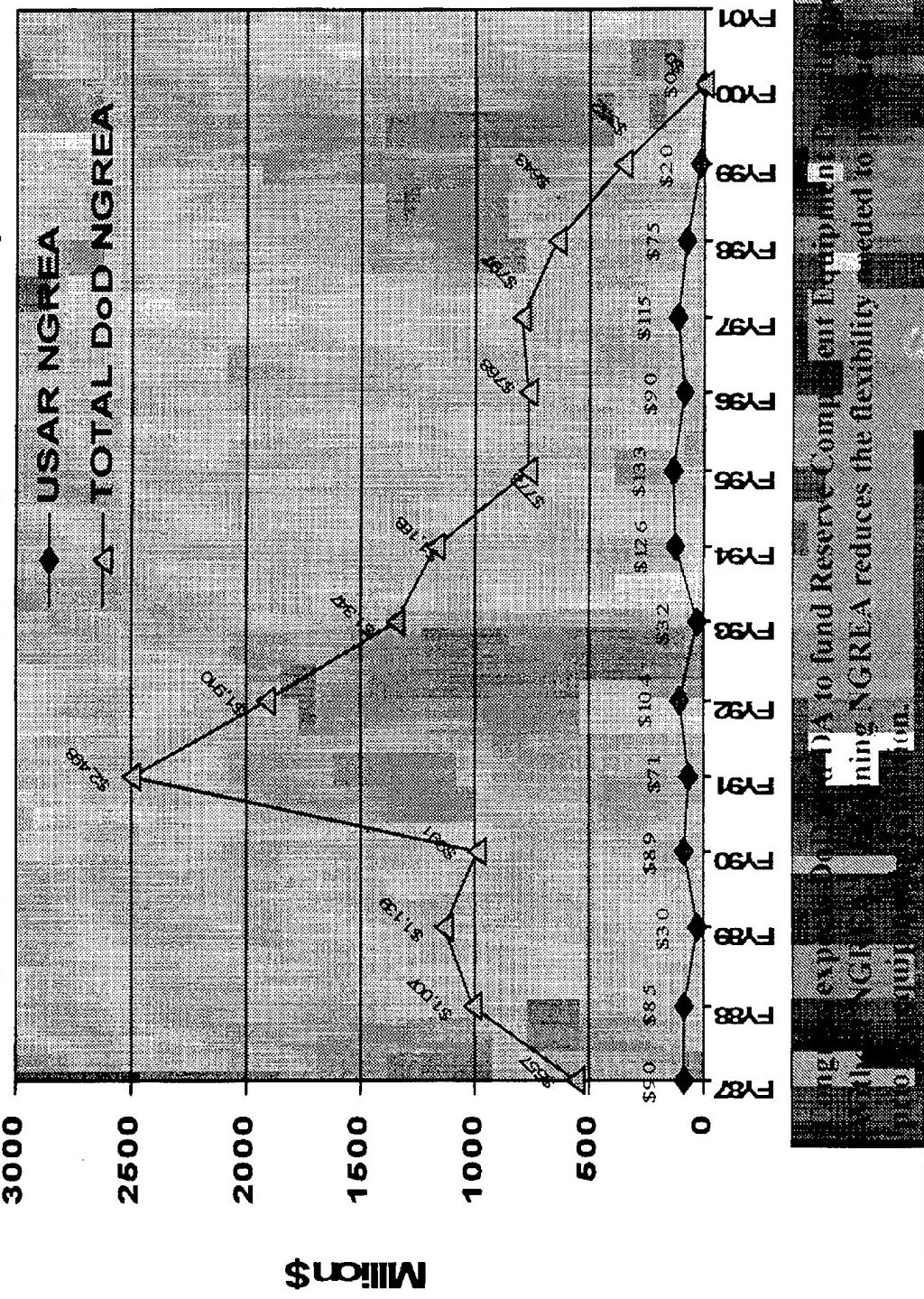
\$224.3M

*Ready — Relevant — One Army, Building for the Future*



## National Guard & Reserve

### Equipment Appropriation (NGREA)



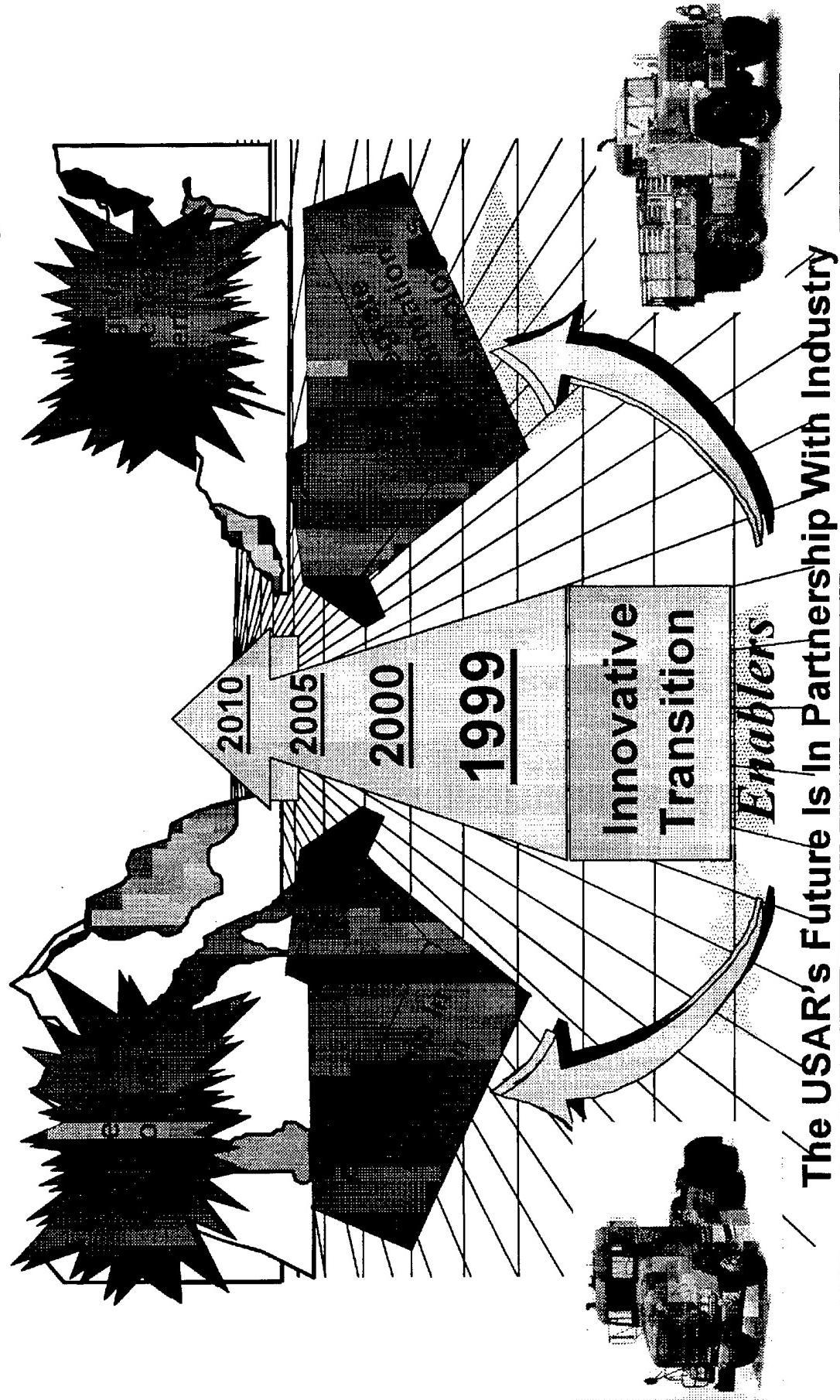
Ready — Relevant — One Army, Building for the Future

DAAR-LO

**U.S. ARMY  
RESERVE**



## What We Need From Industry



**The USAR's Future Is In Partnership With Industry**

**Ready — Relevant — One Army, Building for the Future**

Page 21

**DAAR-LO**

093 /



# U.S. ARMY RESERVE America's Army Reserve

*A value-added leader  
in America's Army  
and the Nation ...*

*... trained, ready, and  
relevant ... enabling  
the Army in peace  
and war to achieve  
total victory.*



*"Mission first,  
soldiers always"*

**GEN Wilson**

# ARMY LAND COMMAND



Tactical Wheeled  
Vehicle Conference

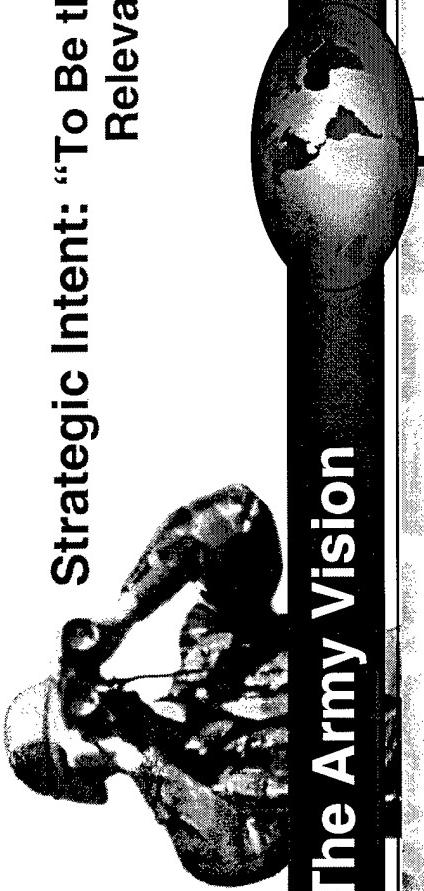
1 February 1999

Relevant, Responsive & Ready!

# The Army's Materiel Command



**Strategic Intent:** “To Be the Army’s Materiel Command... Relevant, Responsive, and Ready!”



## The Army Vision

**The World's Best Army, a full spectrum force – trained and ready for victory. A Total Force of quality soldiers and civilians.**

- ✓ A values-based organization
- ✓ An integral part of the Joint Team
- ✓ Equipped with the most modern weapons and equipment the Country can provide
- ✓ Able to respond to our Nation's needs
- ✓ Changing to meet the challenges of today...tomorrow...and the 21st Century

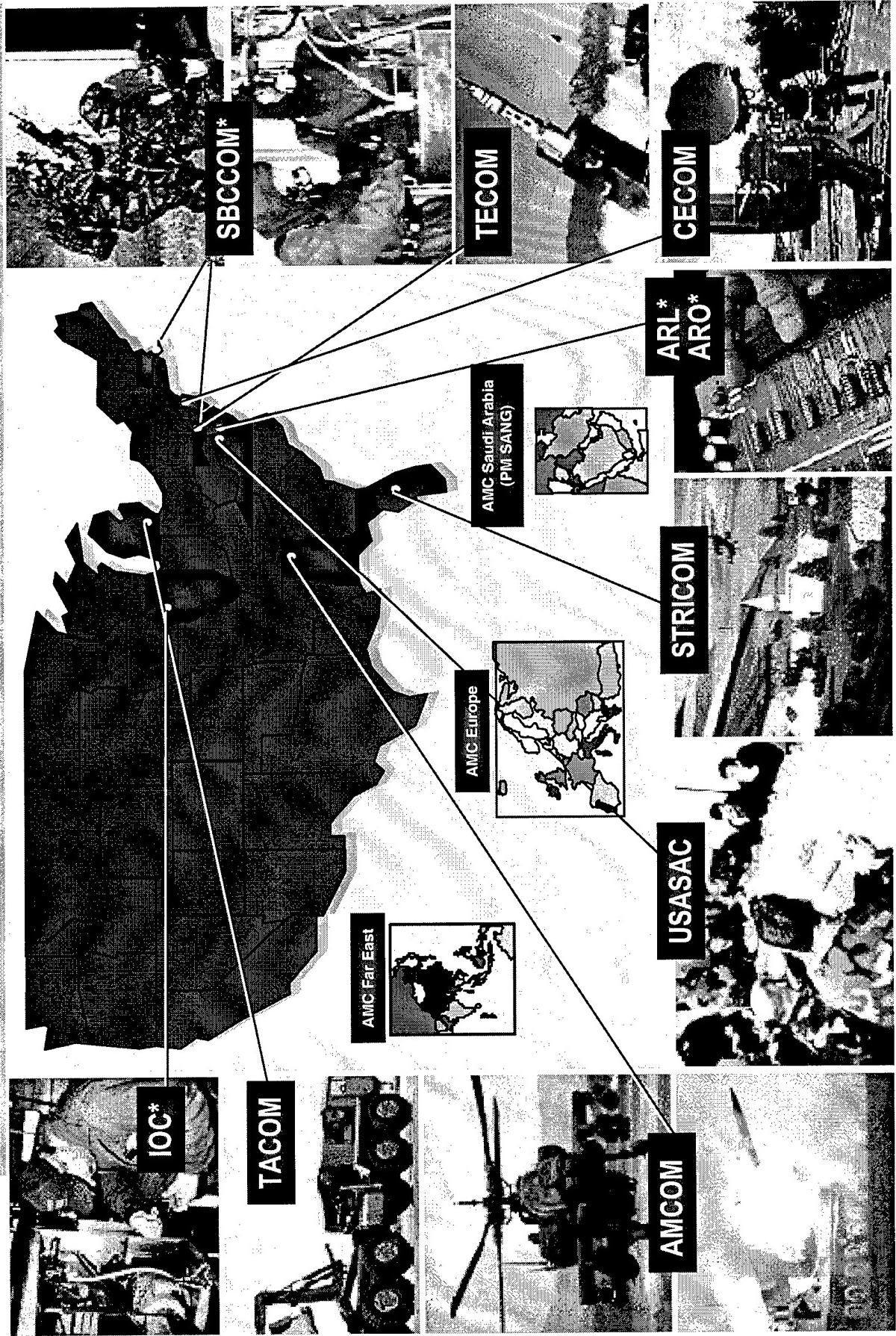
## The AMC Vision

“The Leader in equipping and sustaining America’s Army through superior technology and responsive support assuring worldwide power projection and decisive victory.”

**“Soldiers Are Our Credentials”**

**“America’s Arsenal for the Brave”**

# America's Arsenal For The Brave



\* Major Restructure on 1 October 98



# AMC Business Includes

**Ammunition  
Wholesale Stockpile**  
Total: 3.2 Million Tons

FY98\*

**Expenditures**

**\$19.5 Billion**

\$8.0B Direct

\$11.5B Reimbursable  
from Non-AMC

\*Awaiting Final Settlements/FMS

**Inventories**

**\$7.27 Billion**

(Wholesale Secondary Items)

**Requisitions**

**Processed**

**1.2 Million Army**

**6.8 Million DLA**

(Secondary Items)

**\$3.4B Sales \$1.2B Credits**



**People**

**58,158 Civilians**

**2,714 Military**

**200,000+ Family Members**

**Research, Development,  
& Acquisition**

**17 AMC R&D Labs**  
**9 Test Centers/Ranges**  
**120+ College/Universities**  
**74% of Army R&D Funds**  
**40% Patents**  
**371 ACAT I.IV Programs**

**Depot Maintenance**

**35%**

**Tech Base BASOPs 28%**

**\$1.7 Billion FY98**

**Outsourcing Trend (FY98)**

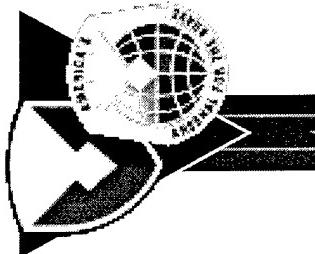
**>24K Actions (>\$25K each)**  
**82% Productivity (Qty)**  
**47% Productivity (\$\$\$)**

**Depot Maintenance**

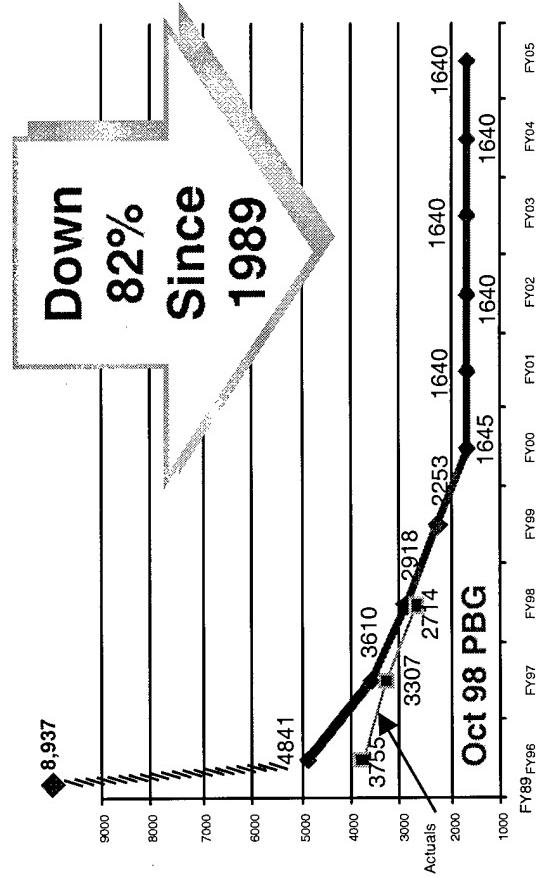
**35%**

**Tech Base BASOPs 28%**

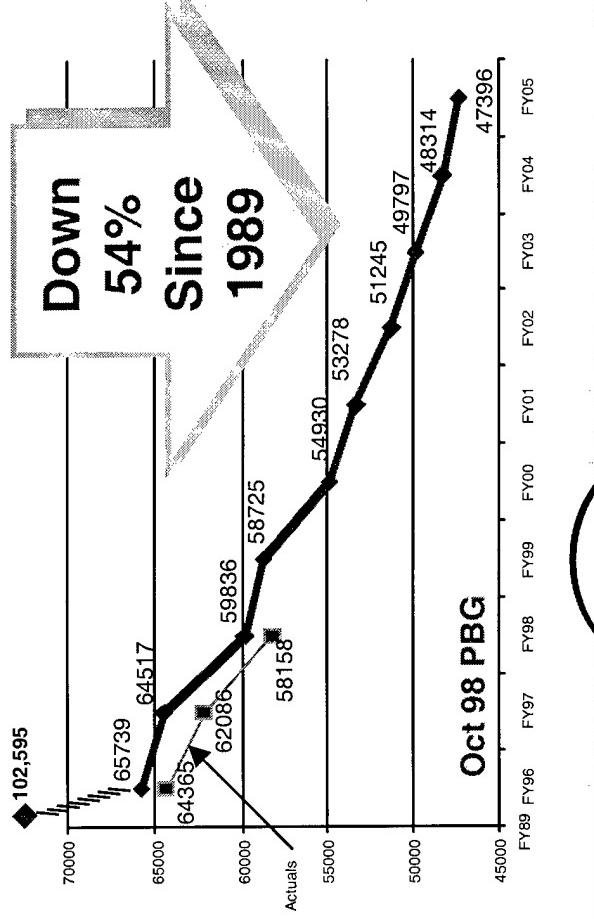
# AMC's Manpower Targets



## Military



## Civilian



## Current Program Budget

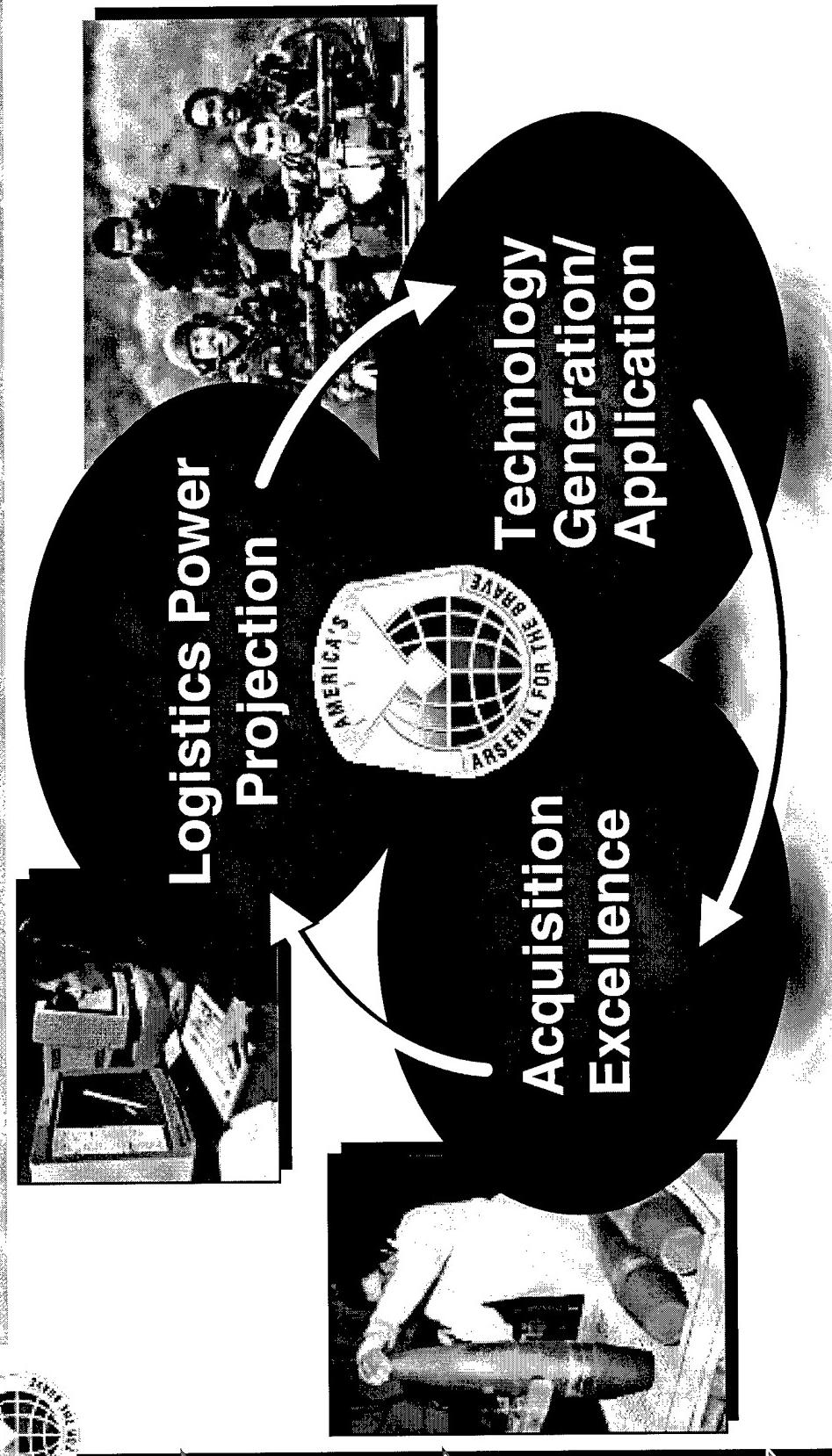
### Guidance Calls for:

- Eliminating 1,074 (or 39.5%) of Soldiers Between End FY98 and FY01
- Eliminating 10,762 (or 18.5%) of AMC Civilian Workforce Between End FY98 and FY05

Retirement Eligible:  
1989: 15%  
2004: 50%

Average Age of AMC Workforce:  
1989: 42.1  
Today: 47.0

# AMC Today – And Into the Future – Means...

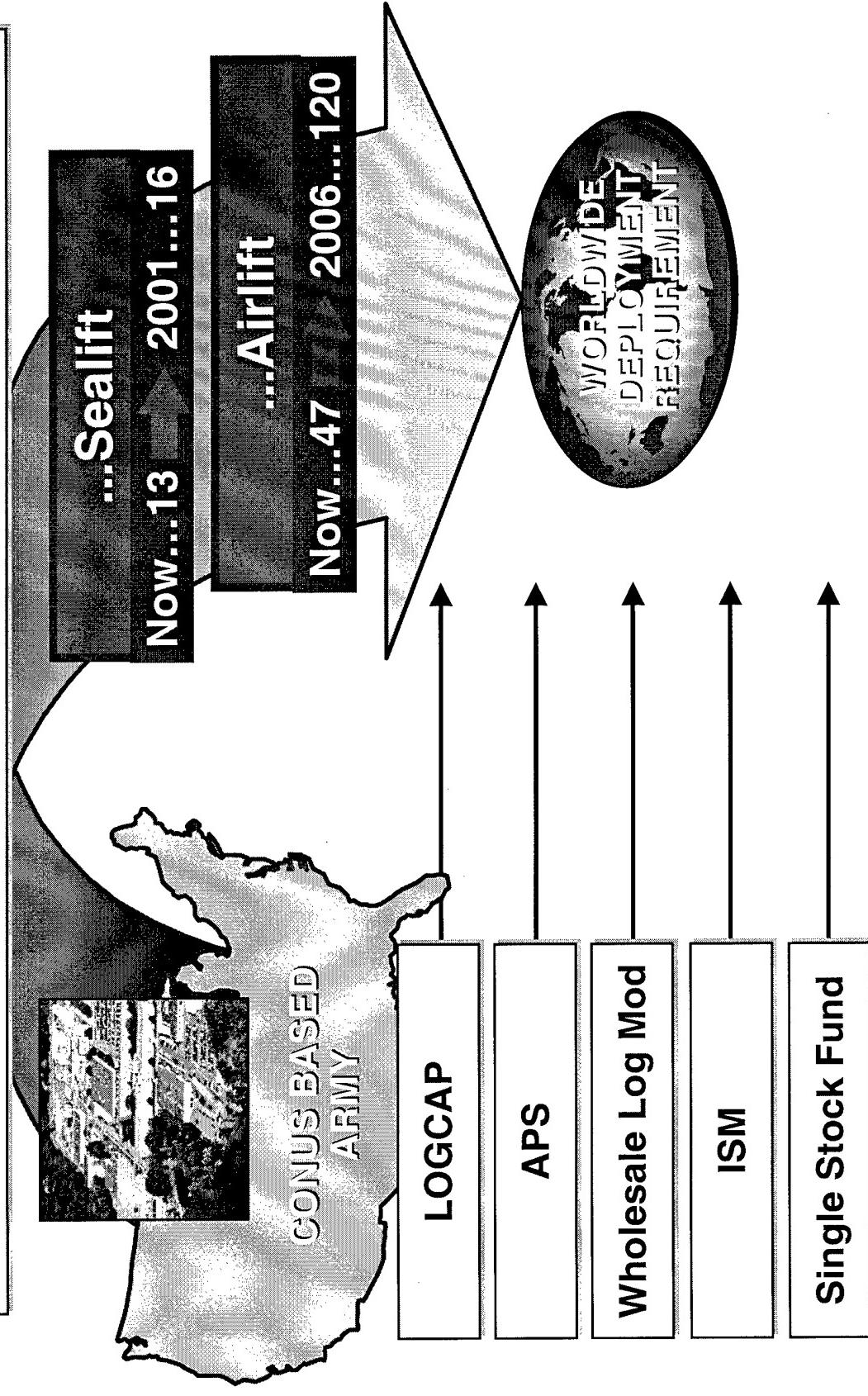


*Information Technology*  
- A Key Enabler -

Generate Warfighting Capability...One-of-a-Kind Integrator...Capital Asset

# Logistics Power Projection

## *Shifting Focus from Stockpiles in Theater to Power Projection of Mobil Stocks*



## Army Pre-Stocks (APS)

### - Geography

OP Project Stocks  
Sustainment Stocks  
Norway:  
15 SP FA Battalion  
Sustainment Stocks

#### Sustainment Stocks

(DPG Based)  
\$6.9B Required  
-\$2.1B in Offsets  
Co-EP, DGA

#### APS CONUS

APS-5 SW ASIA  
Kuwait: 2X1 Brigade  
Sustainment Stocks  
OP Project Stocks  
ITT Corp  
Qatar: 2X1 Brigade  
Sustainment Stocks  
LSI Corp

#### APS-4 PACIFIC

Korea: 2X1 Brigade  
OP Project Stocks  
Sustainment Stocks  
Japan: OP Project Stocks  
Sustainment Stocks

#### APS-3 AFLLOAT

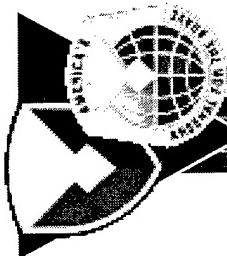
Afloat: 2X2 Brigades  
OP Project Stocks  
Sustainment Stocks  
Dyncorp-PACIFIC  
Maintenance Surveillance

#### APS-Afloat

- 8 Transloads through Nov 00  
- End State 16 Ships  
- 30-36 Months Maint Cycle

5 Locations;  
**\$6.9B Requirement;**  
**Project & Sustainment Stocks**

# Civilian Contractors on the Battlefield



CASCOM  
White Paper  
(Principles)

Complete

ASA  
(RDA & ILE)  
Policy Stmt

Complete

AMC

AR 715-XX  
Army Contractors  
On the  
Battlefield

Draft/Review  
Stage Jan 99

HQ TRADOC  
Lead

Capstone  
Doctrine

Draft  
Publish  
Mid '99

1st Draft  
Winter 98

Emerging Policy  
and Doctrine

FM 100-xx  
CONTRACTORS  
ON THE  
BATTLEFIELD

FM 100-10-xx  
Contractors  
On the  
Battlefield

Due Mar 99

# America's Ability to Fight & Win is Priority #1

## Civilian Contractors on the Battlefield Play an Increasingly Important Role

- Civilian Contractors are Integral to Army Field Sustainment
- Pressure to Outsource & Privatize are Increasing & Make Good Business Sense... in many cases
- Challenges Related to Contractors on the Battlefield Must be Addressed



# Acquisition Excellence

## REVOLUTIONIZING ACQUISITION

Administrative Lead Time/  
Procurement Lead Time Reduction

Modeling &  
Simulation

Credit Card

Prime Vendor Support

Virtual Testing

Modernization thru Spares

Cost as an  
Independent  
Variable

Best Value

Past  
Performance

Roadshows COTS

Performance Specifications

Integrated Product &  
Process Development

Partnering

OSCR/TOC

Electronic Commerce /  
Electronic Data Interchange

Corporate  
Contracting

Army Single  
Process Initiative

# WE NEED INDUSTRY HELP...

## Administrative/Production Lead Time (ALT / PLT)



### THE PROMISE

	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	POM TOTAL
Cost	0	0	0	0	0	0	0	0
Savings (SMA DBOF)	195*	50	27	14	14	12	10	322
NET	195	50	27	14	14	12	10	322

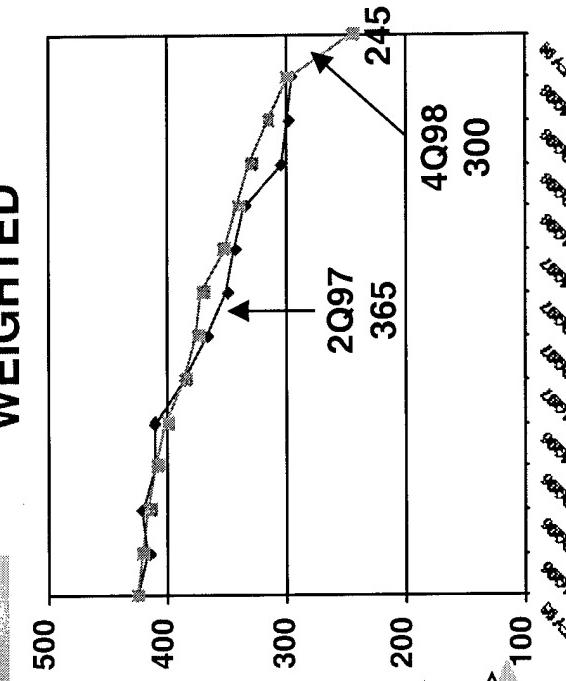
\* FY97 savings of \$195M taken in FY97 BES

### Initiatives:

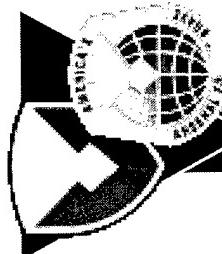
- Long Term Contracting
  - Electronic Ordering
  - Ordering Officers
  - Data Base Scrubs
  - Best Value w/  
schedule as an  
Independent Variable
- IDIQ  
(Indefinite Delivery  
Indefinite Quantity)  
Multi-year  
Multiple Items

PLT  
Represents  
77% of Our  
Current  
Lead Time

ALT/PLT GOALS:  
DOLLAR  
WEIGHTED

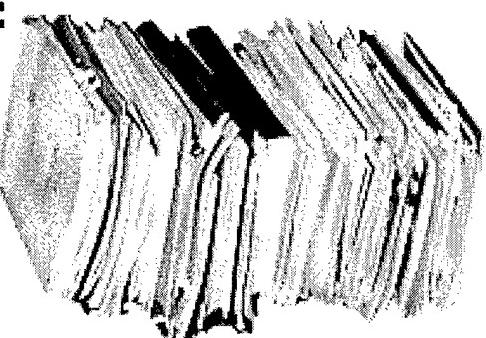


REMARKS:  
AMC GOAL is 245 Days  
by end of FY 99



## Acquisition Excellence

### MIL SPECs AND STDs REFORM



Army Completed  
Review of 12,354  
Specs & STDs

100%  
Scrubbed

### BLUEPRINT FOR CHANGE

DUSD(AR) PAT  
Team Led by  
AMC Principal Deputy  
for Acquisition

#### STDs:

176	Canceled
131	Inactivated
139	Converted

#### SPECs:

2108	Canceled
2922	Inactivated
776	Converted
3890	Transferred to DLA
2212	Retailed as Detail (Includes 1458 by Institute of Heraldry

*“...moving to greater use of performance and commercial specifications is one of the most important actions that DoD must take to ensure we are able to meet our military, economic and policy objectives in the future.”*

*Challenging  
Four Year  
Goal Successfully  
Completed in Oct 98*

A Case Study in Progress!

# Electronic Contracting

We're on  
the Web

## Moving to "Paper-Free" Acquisition

- \* "One Stop" Entry Point for Industry into AMC Business Process:

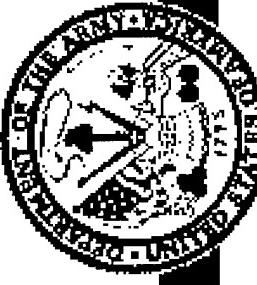
- \* Contracting Opportunities Across Army via Web Page Links

- View RFPs / IFBs / RFQs
- View Attachments / Exhibits "Online"
- Automated Link to Tech Data Packages
- Electronic Downloading via Modem

### Policy:

- \* Contracting Guides
- \* Past Performance Pamphlet
- \* FAR / DFAR Links

[www.army-acquisition.net](http://www.army-acquisition.net)



## Acquisition Business Web Site

"Serving the U.S. Army Acquisition Community"

### Army Contracting Opportunities

Your entry to all Open Army Solicitations

### Source Selection Resource Center

### Acquisition Business

- Solicitations,
- Executive Information System,
- Electronic Commerce Links,
- Solicitation Maintainer,
- Registration and Feedback

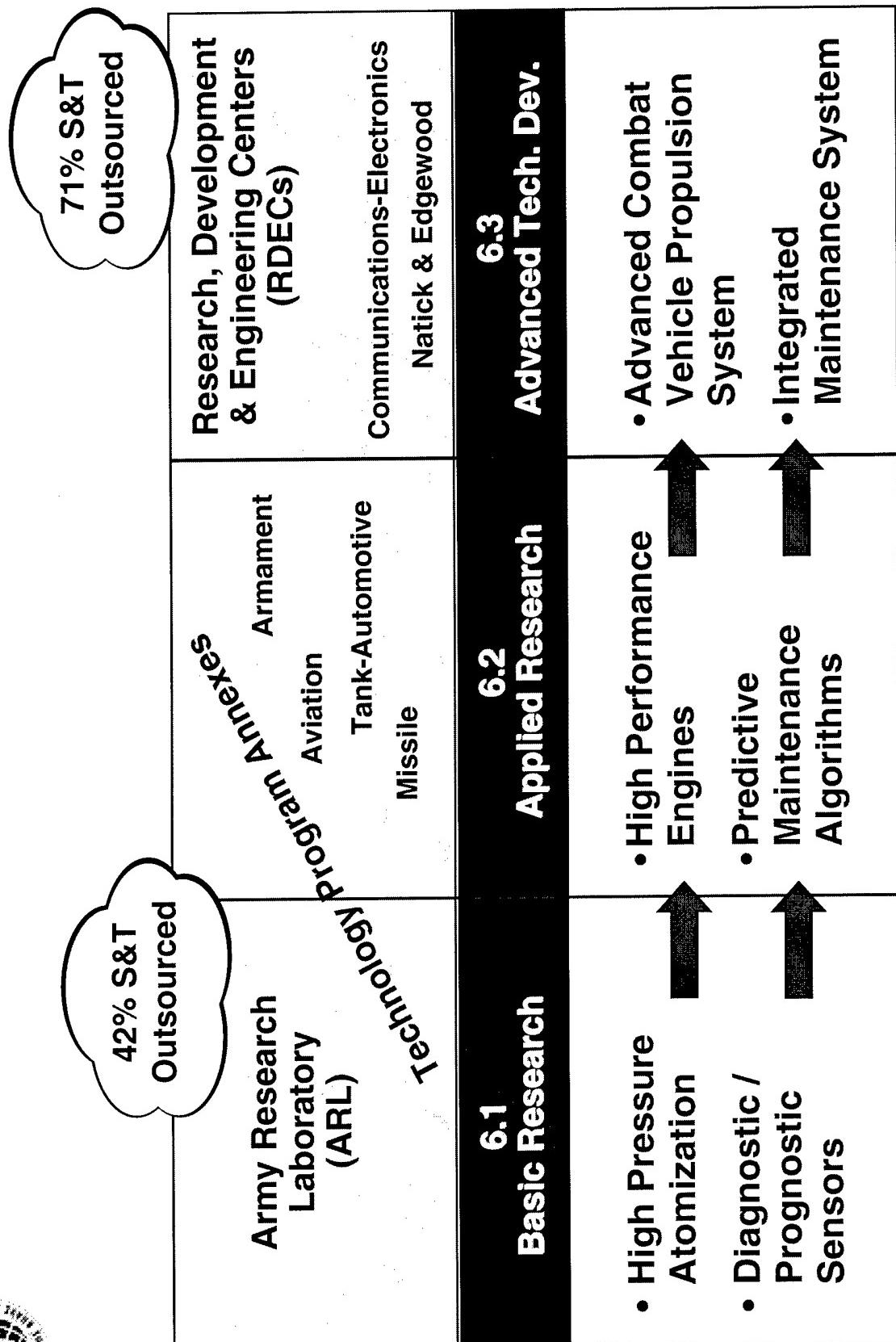
### Obtain Source Selection Guidance:

- Best Value
- Past Performance
- Oral Presentations
- Debriefings

### Acquisition Tool Set

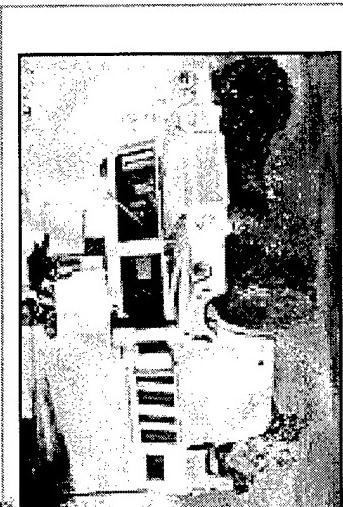
- Bid & Response Gathering:
- Requirements Feedback
- Downloaded Documents

# AMC Science & Technology Team



*ARL & RDECs provide the S&T necessary for decisive victory.*

# AMC R&D Partnerships with Industry and Academia



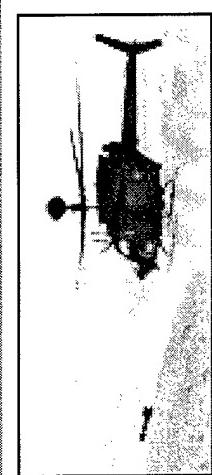
National  
Automotive  
Center  
TACOM

## Dual use Automotive Technology with...

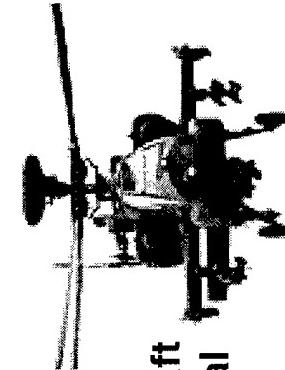
- DoD Agencies
- Dept of Education
- Dept of Commerce
- Dept of Transportation
- Academia
- Industry

Chrysler  
Ford  
General Motors

\$19M



National  
Rotorcraft  
Technical  
Center  
AMCOM

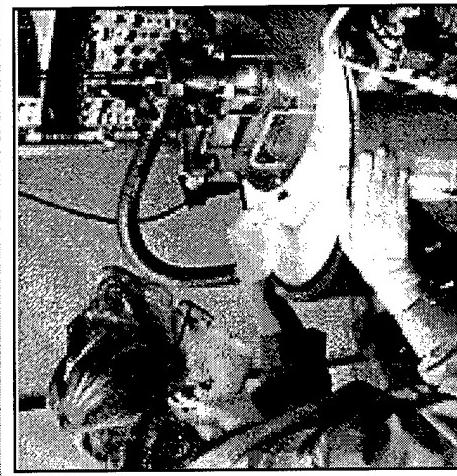


## Collaborative Rotorcraft R & D between...

- Army and Navy
- NASA
- Fed Aviation Admin (FAA)
- Academia
- Industry

Sikorsky  
Boeing  
Bell

\$2M



Army Federated Labs  
ARL

## Partnering Science and Technology with...

- Universities
- HBCU/MI
- Industry
- Adv Sensors
- Adv Displays

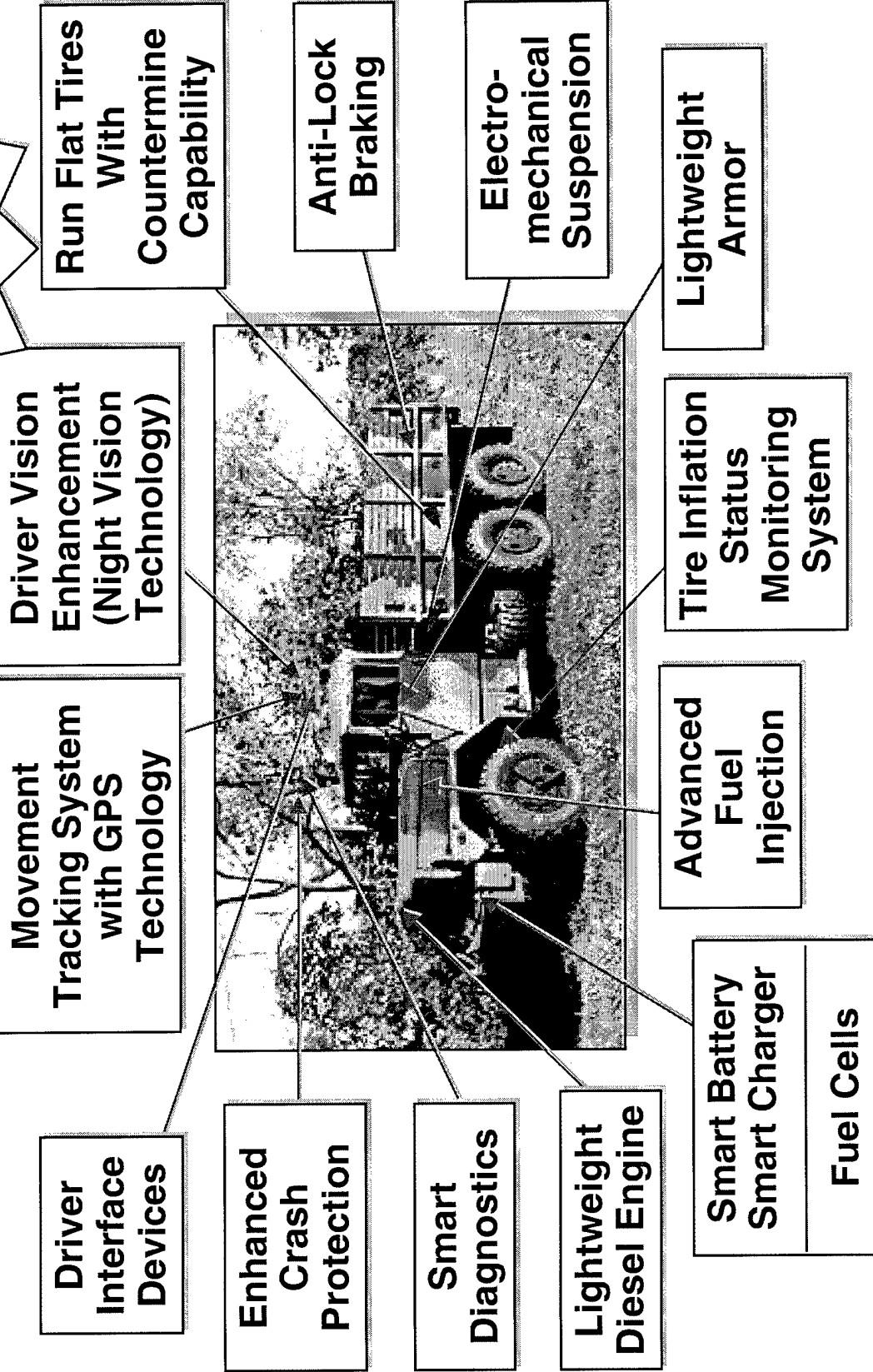
Lockheed Sanders  
MIT  
Motorola

\$22M

*Partnering is critical to making technology work for soldiers.*

# Technology Generation and Application

**ARL Project:**  
Reduce Fuel  
Consumption by  
75% before 2020

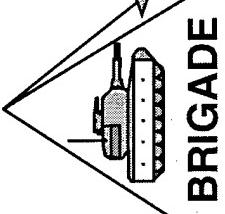


# Trucks: What It Takes



TANKS = 116  
TRACKS = 240  
HOWITZERS = 18

TANKS = 203  
TRACKS = 721  
HOWITZERS = 54  
MLRS = 18



BRIGADE

DIVISION  
XXI

HMMWV = 301  
2-1/2 TON = 139  
5 TON = 84  
HEMTT = 94  
PLS = 40  
**TOTAL = 658**

HMMWV = 1914  
2-1/2 TON = 673  
5 TON = 549  
HEMTT = 426  
PLS = 165  
HETS = 24  
**TOTAL = 3751**

HMMWV = 11,565  
2-1/2 TON = 3,640  
5 TON = 4,695  
HEMTT = 424  
PLS = 180  
HETS = 481  
**TOTAL = 20,986**

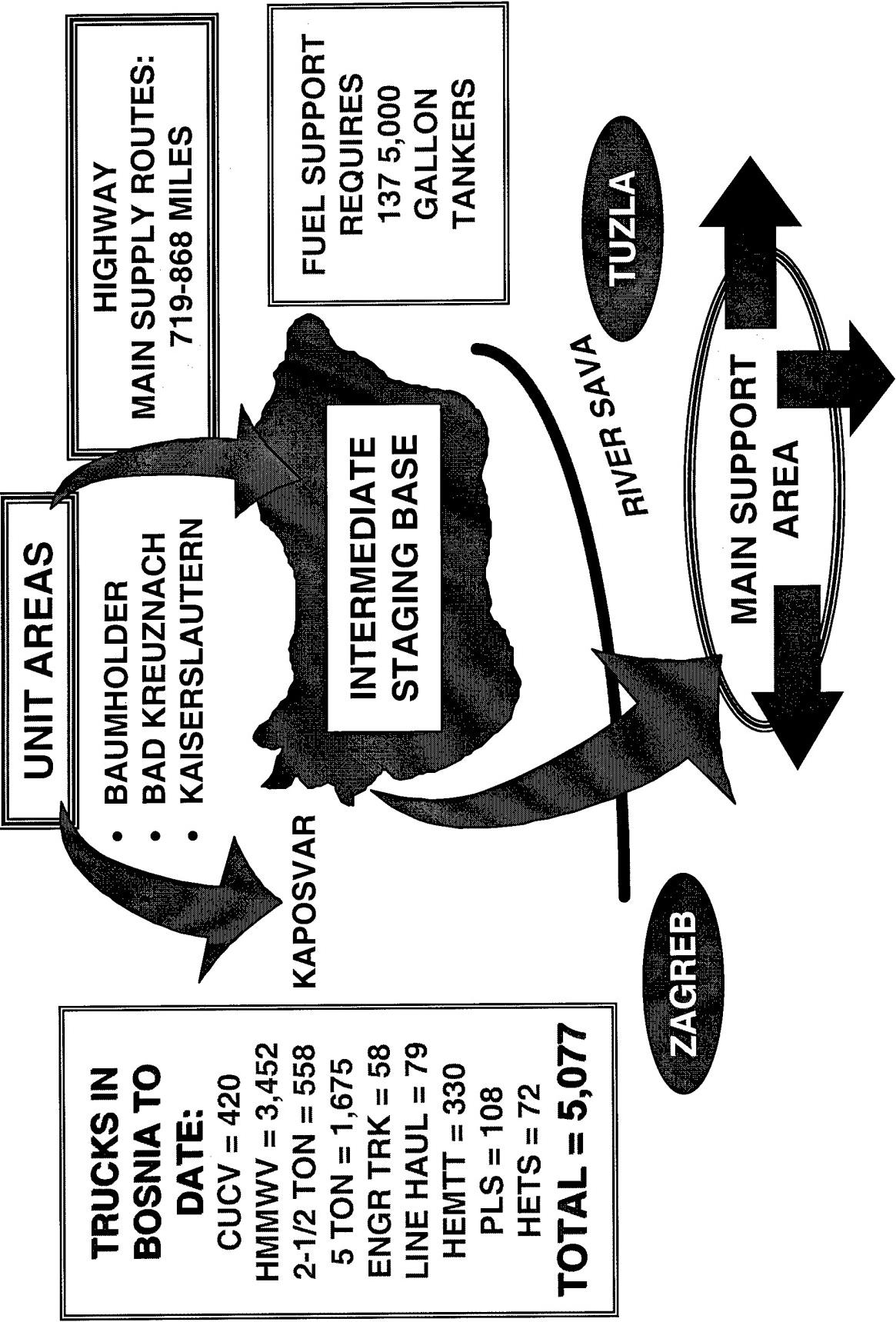
“SOMETIMES SOLDIERS  
LIKE ME NEED TO BE  
REMinded THAT TRUCKS  
ARE AS IMPORTANT  
AS TANKS”  
GEN. NORMAN SCHWARZKOPF

CORPS - THE DOCS IS BEING  
MAINTAINED

19, 229 VARIOUS TRUCKS

TAACOM

# America's Army - Bosnia Deployment



# Truck Requirements



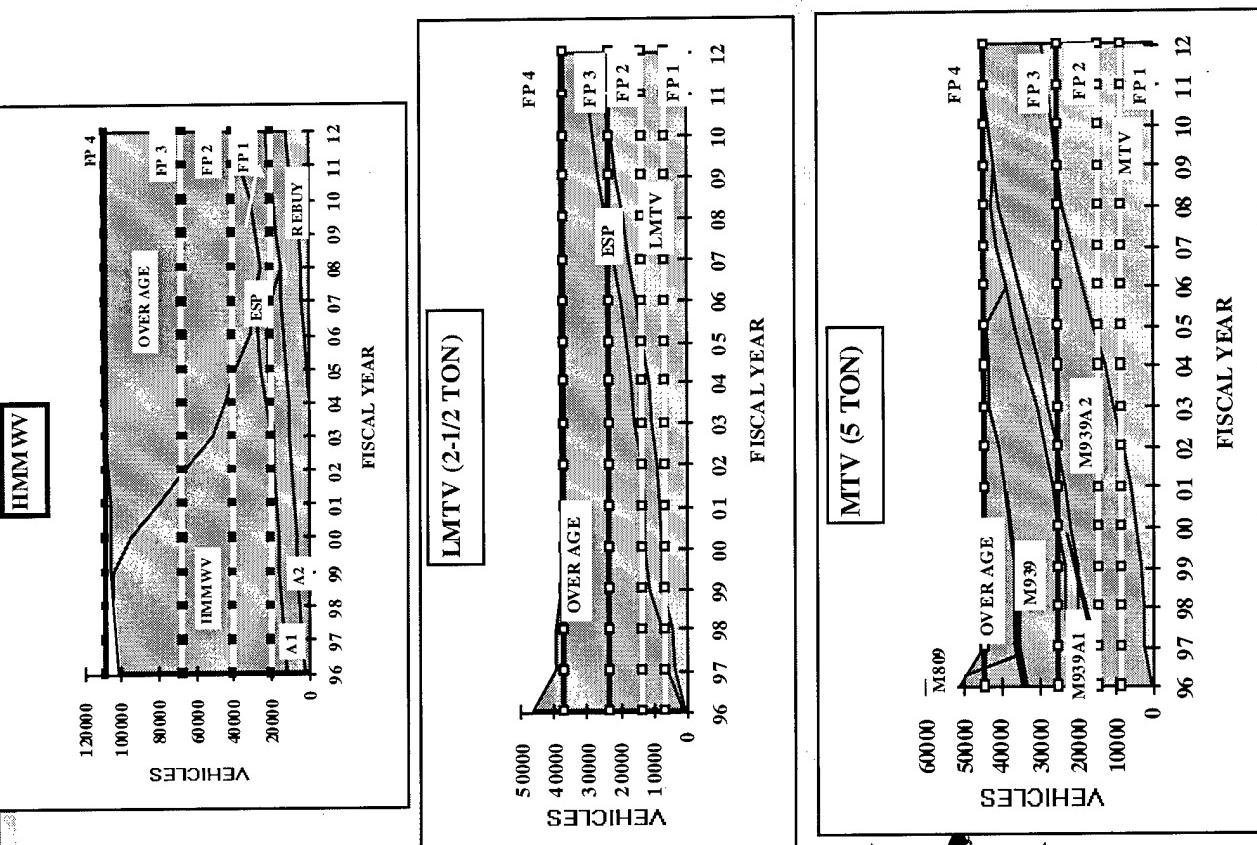
## Support the Fleet

<b>Light</b>	<b>124,170</b>
<b>Medium</b>	<b>83,551</b>
<b>Heavy</b>	<b>30,474</b>
<b>Total</b>	<b>238,195</b>

Does Not Include COMPO 4

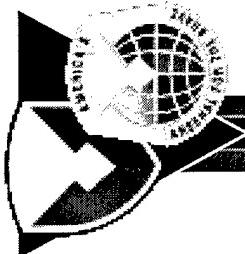
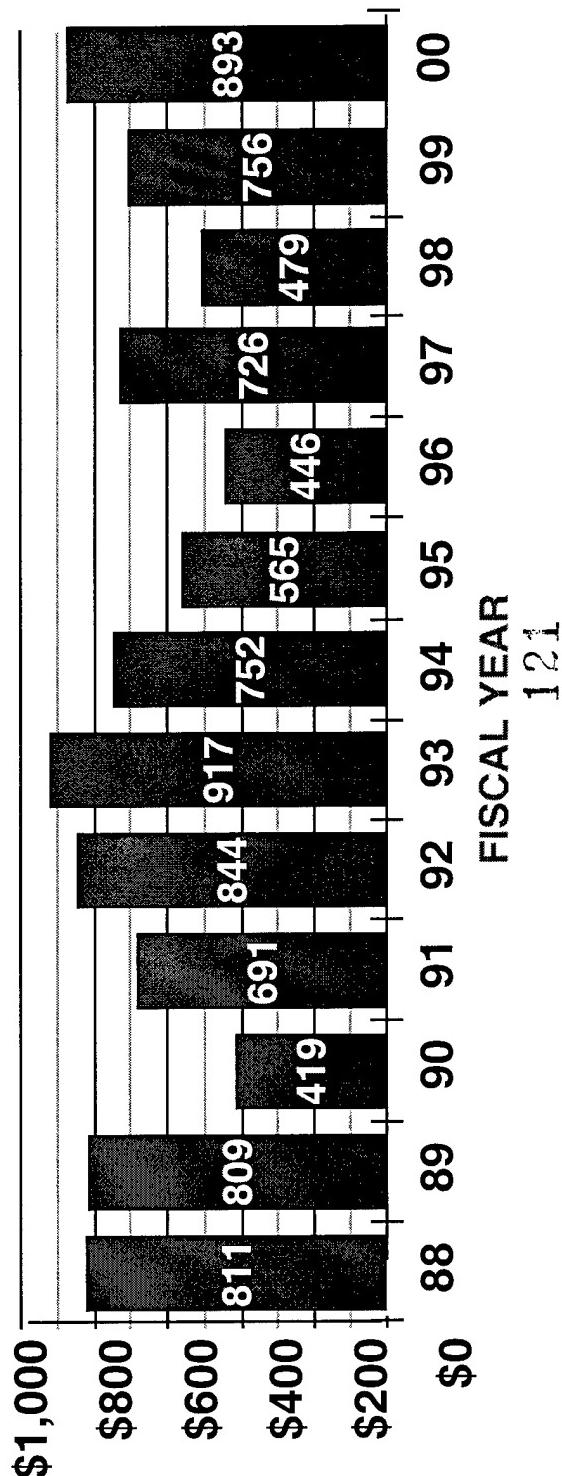
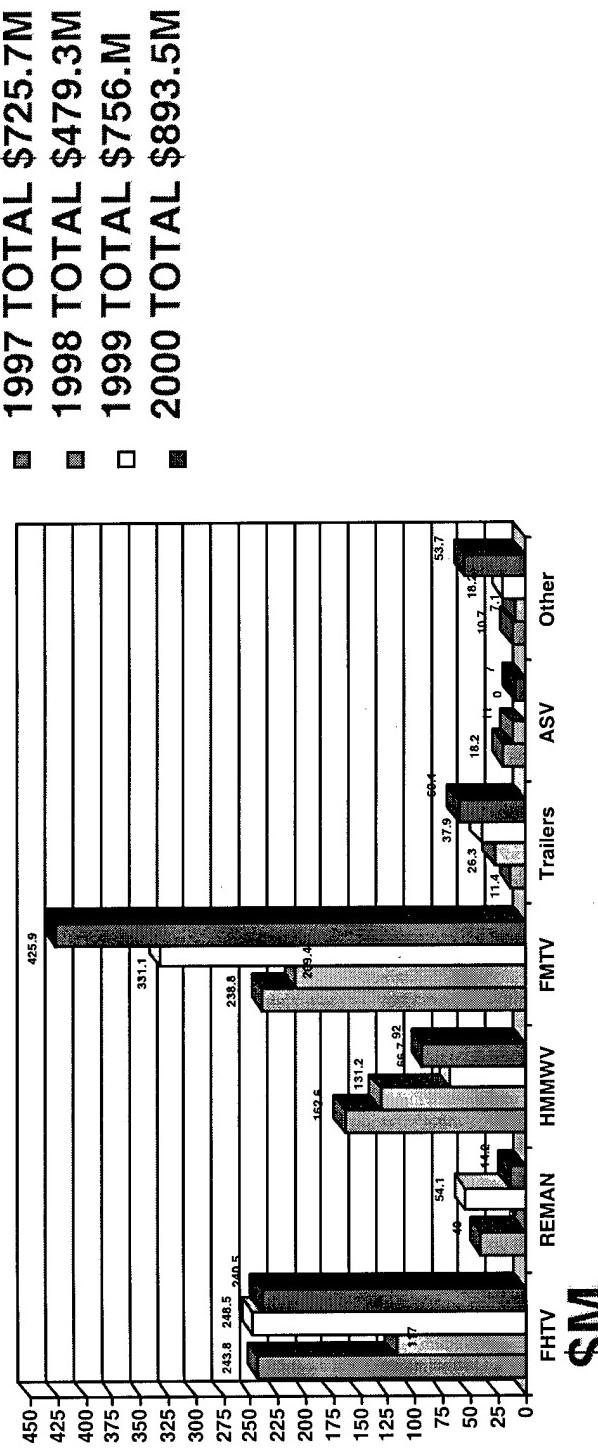
By FY 97  
 90% 2.5 Tons  
 34% 5 Tons  
 OVER AGED!

By FY 00  
 77% 2.5 Tons  
 22% 5 Tons  
 OVER AGED!



# Trucks Update & Procurement Trends

## Tactical and Support Vehicles - 1997 - 2000



# **WE NEED INDUSTRY HELP...**

## *Partnering With Industry*

### **National Automotive Center Examples**

- \* Lightweight Diesel Engine - Cummins
- \* Protective Coatings - Polymer
- \* Smart Diagnostics - Hughes
- \* Run Flat Tires with Countermeine Capabilities - Hutchinson
- \* Electro-mechanical Suspension System - University of Texas



# Conclusions

- \* Change in Environment From Military-Industrial Complex to an Industrial-Military Complex
- \* Requirements Based on Capability Instead of Threat
- \* AMC Has an Increased Role in TWW
- \* Budget Pressures Are a “Fact of Life”
  - Congressional Plus-Ups Have Helped in the Past
  - Keen Interest in FMTV Production
  - Other Customers Continue to Support Remanufacture
- \* Trucks Will Be More Important Than Ever in the Paradigm Shift From a Supply-Based Distribution System to a Transportation-Based Distribution System, Especially PLs
- \* Industry Has Truly Served the Army Well

Thanks For Your Support to the Army

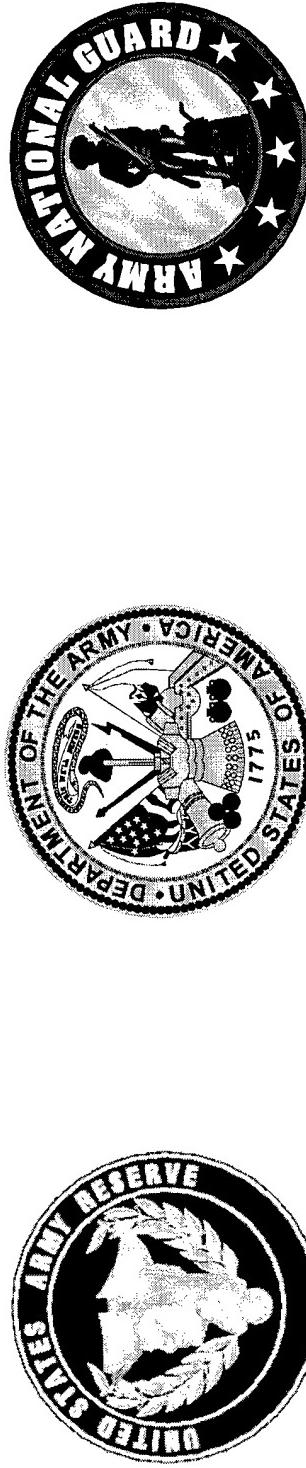


SOLDIERS Are Our Credentials!



## 1999 TACTICAL WHEELED

# VEHICLE CONFERENCE - "HOW HEALTHY IS OUR FLEET?" ODCSOPS PERSPECTIVE



FEBRUARY 1, 1999

COL(P) MICHAEL A. VANE

DIRECTOR OF INTEGRATION  
ODCSOPS

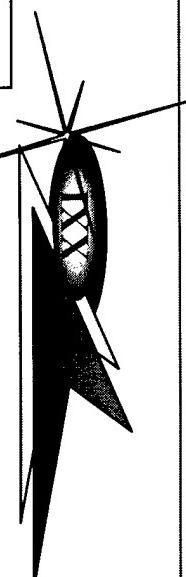
America's ARMY



## TOPICS



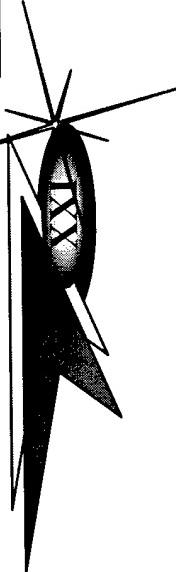
- MODERNIZATION AND FUNDING
- INITIATIVES
- NEW DIVISION DESIGN
- ECONOMIC USEFUL LIFE
- FLEET STATUS
- SUMMARY



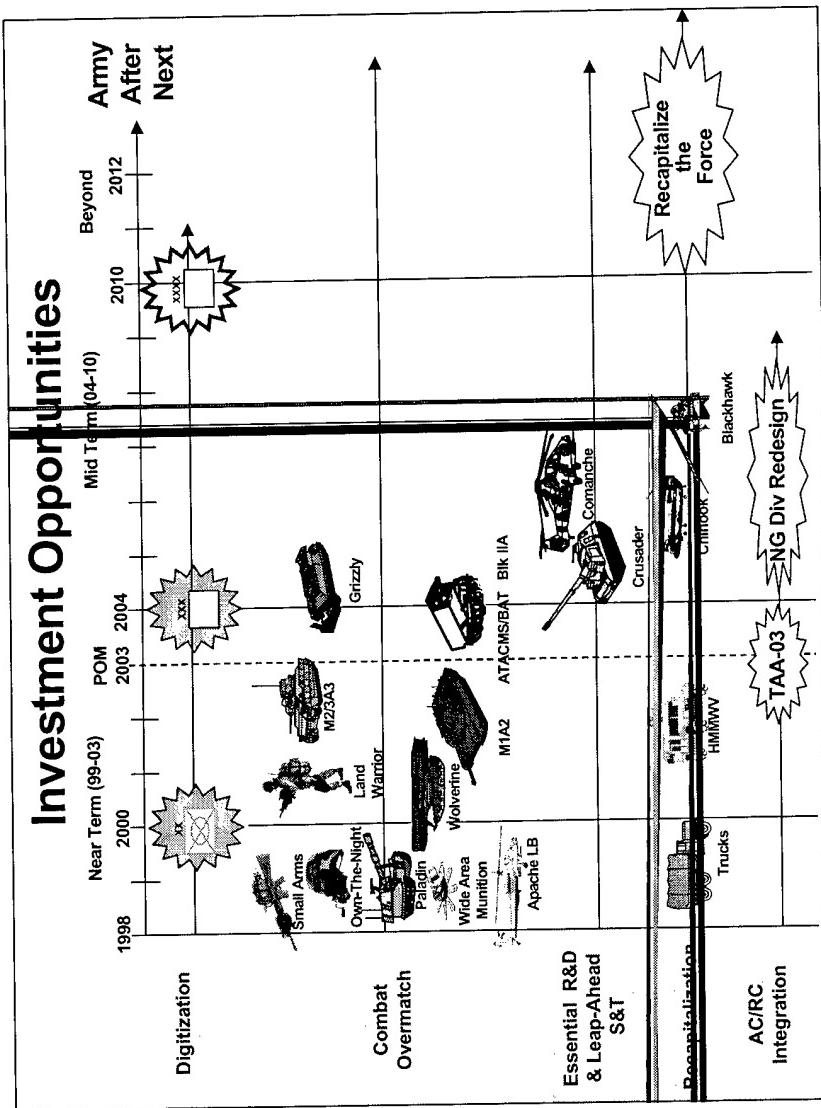
## ARMY TOP 10

1. Non offset funding for all Contingency Operations
2. Quality of Life Issues (Pay, Pay reform, Retirement benefits, Housing and Medical )
3. Support Army Endstrength & Manyears (AC; RC; Civ) Initiatives
4. Fund O&M as allocated and at least to the requested level:
  - Ground OPTTEMPO and Flying Hours (All Components)
  - BASOPS and RPM
  - Depot Maintenance
5. Fund Digitization, FORCE XXI and AECP as Requested
  - Technologies across C4I and weapons platforms
  - FDD by FY 00 and an FDC by FY 04
6. Total Army Force Integration.
7. Critical Warfighter Initiatives
  - Comanche
  - Crusader
8. Institutional Training Policy
9. Preserve MILCON (1+1 Barracks initiative and Deployment Platforms).
10. Strategic Mobility (infrastructure, Prepo Bde Sets and Strategic Lift).

SOLDIERS Are Our Credentials!



## ARMY INVESTMENT OPPORTUNITIES



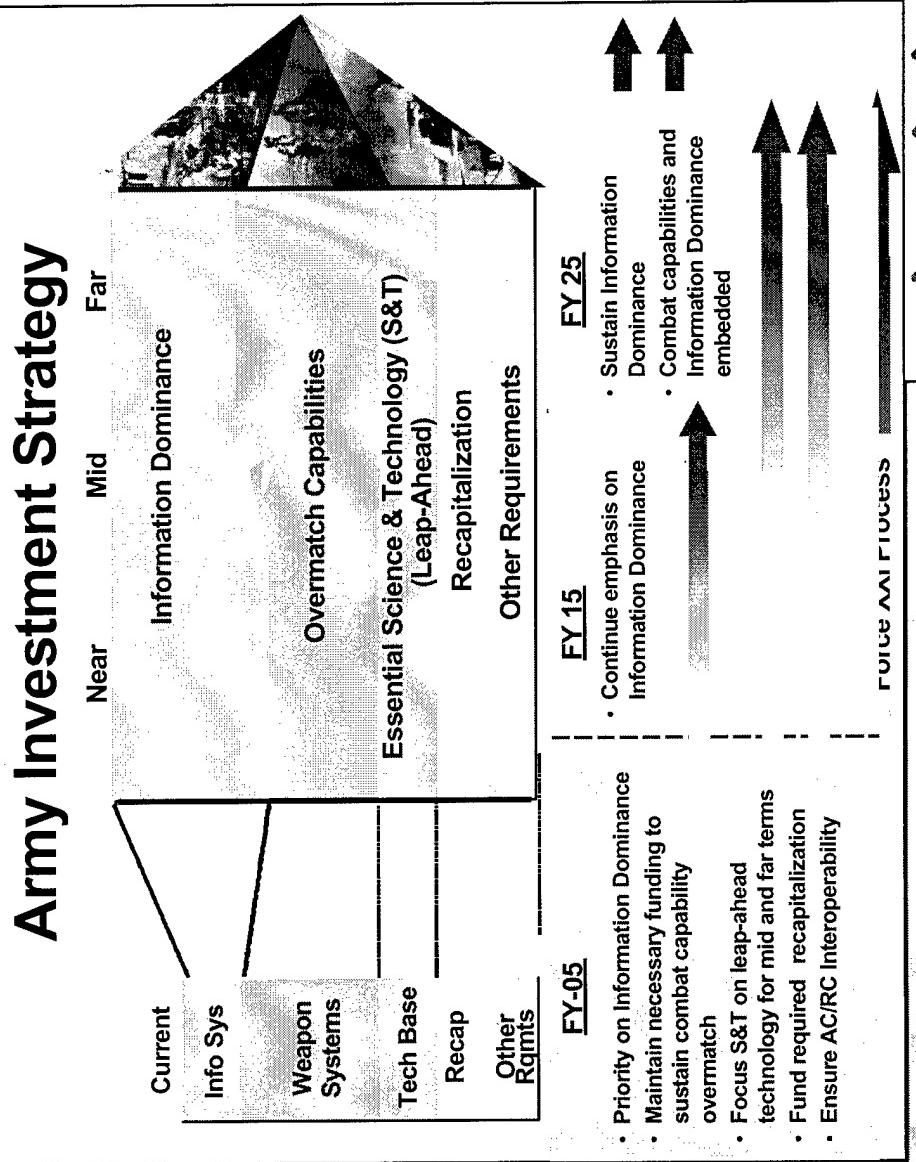
America's ARMY

**SOLDIERS** Are Our Credentials!

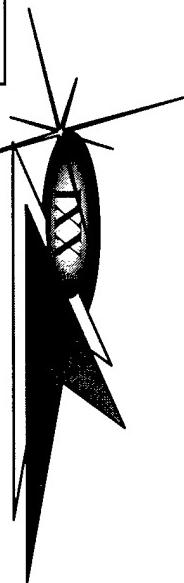
# ARMY INVESTMENT STRATEGY



## Army Investment Strategy



America's ARMY



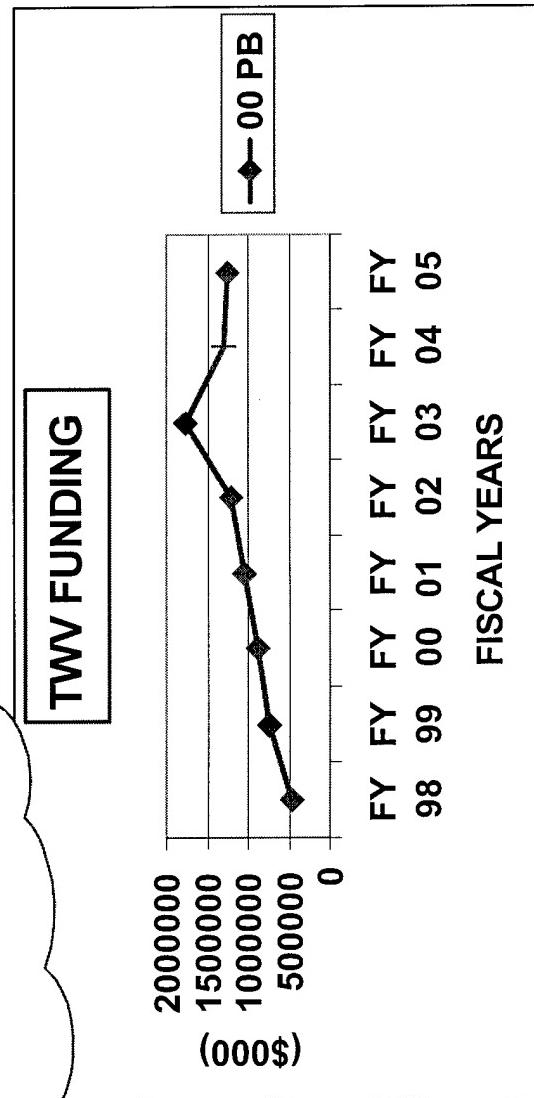
## FUNDING FACTS

- DEFENSE BUDGET IS 3 PERCENT OF THE GROSS DOMESTIC PRODUCT.
- DEFENSE BUDGET IS 15 PERCENT OF THE FEDERAL BUDGET.
- THE ARMY BUDGET IS 25 PERCENT OF THE DEFENSE BUDGET.
- RESEARCH DEVELOPMENT AND ACQUISITION (RDA) IS 19 PERCENT OF THE ARMY BUDGET.
- TRUCK PROCUREMENT IS 7 PERCENT OF THE RDA BUDGET.

**SOLDIERS Are Our Credentials!**

## FUNDING PROFILE

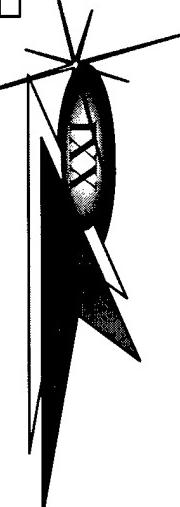
\$1.1B AVG PER YEAR 98-05  
\$1.2B AVG PER YEAR 00-05



**RC FUNDING**  
\$382M AVG PER YEAR 98-05  
\$473M AVG PER YEAR 00-05

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## **NATIONAL AUTOMOTIVE CENTER (NAC)**

- PART OF THE TANK-AUTOMOTIVE AND ARMAMENTS COMMAND (TACOM)
- DOD FOCAL POINT FOR COLLABORATIVE AUTOMOTIVE R&D WITH INDUSTRY, ACADEMIA AND OTHER GOVERNMENT AGENCIES
- RESPONSIBLE FOR ACCELERATING THE INFUSION OF COMMERCIAL TECHNOLOGY INTO MILITARY LAND WARFARE SYSTEMS
- LEVERAGES DOD INVESTMENT IN MILITARY LAND WARFARE SYSTEMS THROUGH STRATEGIC, COST-SHARED PARTNERSHIPS; ARMY'S LEADER IN DUAL-USE APPLICATION
- FOCUS IN FIVE TECHNOLOGY AREAS: FUEL EFFICIENCY, VEHICLE MODERNIZATION, SAFETY, MAINTENANCE AND LOGISTICS, AND MANUFACTURING INNOVATION
- PRESENT INITIATIVES: HYBRID ELECTRIC, ADVANCED DIESELS, FUEL CELL HYBRIDS, NEXT GENERATION TACTICAL TRUCK TECHNOLOGIES, WASTE OIL REUTILIZATION, SMART TRUCK TECHNOLOGIES, AND COLLABORATIVE DESIGN

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## CREW PROTECTION

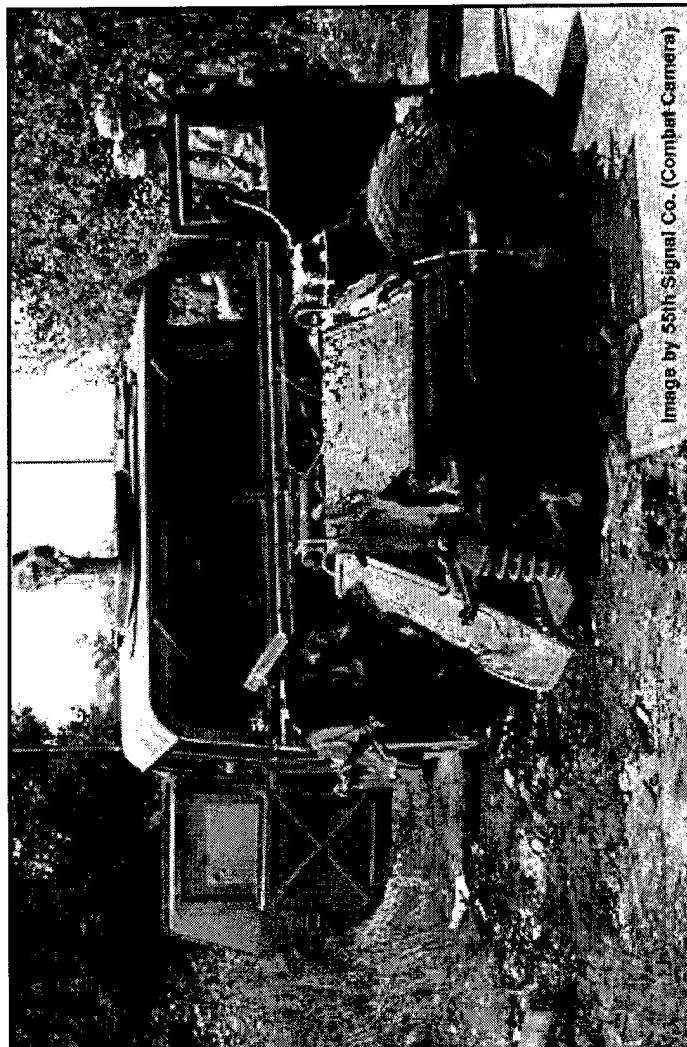
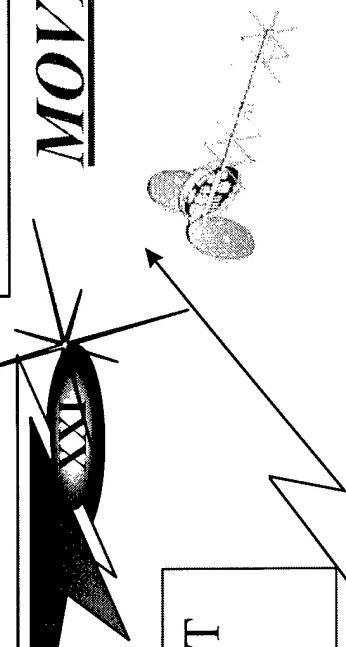


Image by 55th Signal Co. (Combat Camera)

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## MOVEMENT TRACKING



REQUIREMENT  
33,379 (EST)

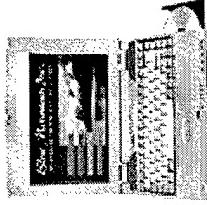
SYSTEM

EXPANDED FROM  
PLS TO ALL TWW.

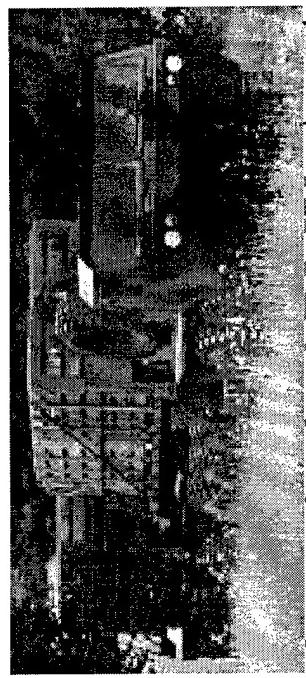
Near-Real Time Position Locations of Mobile Unit  
Messaging Capability to Re-direct Mobile Unit Due to:

- Congestion
- Enemy Situation
- Change in Plan (Destination Unit Moved, or Priority Shift)

WRAP  
PROGRAM



CONTROL STATION  
(not dependent on  
landline)



I/O Device w/ Map  
Subscriber Controller  
GPS Antenna  
Satellite Antenna

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## DIVISION DESIGN COMPARE

- HMMWV + 22
- ASV + 29
- LMTV - 102
- MTV - 57
- HEAVY +84

- TRAILERS - 25
- TRUCKS - 24

INCREASE IN HEAVY  
MORE EXPENSIVE  
VEHICLES.

### AOE vs D-XXI HEAVY MECH DIVISIONS

#### TACTICAL WHEELED VEHICLES

LIN	TYPE	AOE	DXII	QTY	Δ	LIN	TYPE	AOE	DXII	QTY	Δ	LIN	TYPE	AOE	DXII	QTY	Δ
D34883	DOLLY MOBILIZER, M1022	7	7	0	-3	T45465	HEMAT, TRL, M989A1	71	208	137	-33	T96838	FLT BED TRL, 7.5-TON, M1073	22	8	-14	
G34805	DOLLY MOBILIZER, M720	13	10	-3	-3	T58161	HEMTT, TNKR W/W, M978	26	33	7	W95811	1-1/2T TRL, M105	54	36	-18		
S70027	SEMI TRL, FLT BED, M871	115	44	-71	-71	T59048	HEI, TRACTOR, M1070	24	24	0	W98825	WATER TRL, M149	199	184	-15		
S70243	SEMI TRL, WRKR, M270	1	1	0	-	T59278	HEMTT, CGO, M977	112	25	-87	Z06421	ASV	0	29	29		
S70517	SEMI TRL, LOWBED, M172	10	6	-4	-4	T60081	LMTV, CGO, M1078	562	505	-77	Z36068	LMTV, TRL, M1082	503	352	-151		
S70859	HET TRL, M1000	24	24	0	-	T60149	LMTV, CGO W/W, M1078	137	103	-34	Z36204	1-1/4T TRL, M1102	100	144	44		
S73372	SEMI TRL, 5,000 GAL, M969	70	74	4	-4	T61103	TRUCK TRAC, LINE HAUL	1	0	-1	Z36272	3/4T TRL, M1101	404	460	56		
S74832	SEMI TRL, VAN, M749/M750	23	15	-8	-8	T61239	MTV, TRACTOR, M1088	241	187	-54	Z62562	HMMWV, EXP CAP, XM1113	61	59	-2		
S75038	SEMI TRL, VAN, M146	5	0	-5	-5	T61307	MTV, TRAC W/W, M1088	12	16	4	Z62630	HMMWV, ARMD, XM1114	133	106	-27		
S75175	SEMI TRL, VAN M129	55	46	-9	-9	T61494	HMMWV, CGO, M988	1201	1237	36	Z90712	MTV, TRL, M1095	38	34	-4		
T07679	HMMWV, HVY, M1097	326	368	42	42	T61562	HMMWV, CGO, W/W, M1038	126	98	-28	Z94047	MTV, TANKER, M1091	56	32	-24		
T38844	HMMWV, AMBULANCE, M997	27	27	0	-	T61704	MTV, LWB, M1085	33	17	-16	Z94560	MTV, EXP VAN, M1087	44	72	28		
T39518	HEMTT, CGO W/W, M977	53	132	79	-79	T61772	MTV, LWB W/W, M1095	1	0	-1			<b>TOTALS</b>	<b>5527</b>	<b>5478</b>	<b>-49</b>	
T39586	HEMTT, CGO, M985	36	48	12	-12	T61908	MTV, CGO, M1083	133	173	40			<b>DISCOM</b>	<b>1733</b>	<b>2631</b>	<b>898</b>	
T39654	HEMTT, CGO W/W, M985	6	6	0	-	T63093	HEMTT, WRKR, M984	51	37	-14			<b>NON_DISCOM</b>	<b>3794</b>	<b>2847</b>	<b>-947</b>	
Z40639	HEMTT - LHS	0	0	0	-	T87243	HEMTT, TNKR, M978	159	145	-14			<b>% of DIV in DISCOM</b>	<b>31.4%</b>	<b>48.0%</b>	<b>16.7%</b>	
T40999	PLS, W/O MHE, M1075	9	111	102	-102	T92242	HMMWV, ARMT CR, M1025	18	19	1	B83002	BED CGO, PLS, M1077	108	324	216		
T41067	PLS, W/MHE, M1074	54	54	0	-	T93484	LMTV, VAN, M1079	56	65	9	Z27727	CONTAINER LIFT KIT (CLK)	3	10	7		
T41135	MTV, CGO W/W, M1083	9	4	-5	-5	T93761	PLS, TRL, M1076	9	45	36							
T41203	MTV, CGO W/MHE, M1084	39	15	-24	-24	T94709	MTV, WRKR, M1089	38	33	-5							

UPDATED 8/7/07/08

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## CURRENT FLEET AGE BY FORCE PACKAGE AND COMPO



FLEET	EUL	R3	FP 1		FP 2		FP 3		FP 4		
			AC	NG	AR	AC	NG	AR	AC	NG	AR
CUCV	11	1997	11.7	11.7	11.8	11.7	11.7	11.7	11.7	11.7	11.8
HMMWV	14	1999	7.2	7	6.3	7.3	5.9	8.1	7.2	7.3	7.9
2.5 T	20	2013(LMTV)	18.8	25.6	27.4	27.5	28.6	27.5	27.1	26.5	27.4
5 T	22	2015(MTV)	9.8	16.3	10.4	12.4	23.7	18	13.1	17.6	12.1
M915	20	1998	13.6	12.4	7.6	14.3	3.3	0	15.5	11.7	12.6
HEMTT	20	2004	10	9.7	9.7	10.2	10.7	9.4	10.3	10.1	17.9
PLS	20	2012	2.1	2.1	2	2	0	0	2	2	10.2
HET	20	2012	3.1	3.3	4.4	5.7	0	0	7.7	6.2	3.5
LET/MET	20	1998	11.4	7.2	9.8	7.5	0	7.5	14.8	11.9	18.5
ALL			10.1	13.3	11.3	11	10.3	12.4	11.9	14.3	14.5

**VEHICLE AGE BY FORCE PACKAGE SHOWS RESULTS  
OF FIELDING PRIORITIES.**

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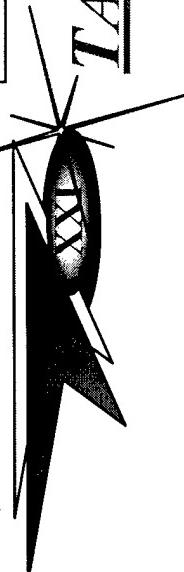
## OVERALL FLEET AGE

### FLEET AVERAGE AGE 1998 vs END POM/EPA

VEHICLE	ECONOMIC LIFE	MAX FLEET AVE % OVER			FLEET AVERAGE AGE	
		1998	2014	%	1998	2014
CUCV	12	6	21	12.6	N/A	N/A
HMMWV	15	7.5	0	7.9	17.0	22.9
SUSV	15	7.5	0	7.1	N/A	N/A
M151	15	N/A	100	20.7	N/A	N/A
M880	7	N/A	100	20.1	N/A	N/A
2-1/2 TON	20	10	85	23.3	13.8	13.8
5 TON	22	11	29	14.3	6.9	6.9
PLS	20	10	0	2.4	16.0	16.0
HEMTT	20	10	0	10.7	6.7	6.7
ENG TRAC	20	10	0	12.8	15.7	15.7
LINE HAUL	20	10	0	14.5	12.8	12.8
HET	20	10	31	6.2	14.8	14.8
YARD TRAC	10	5	100	16.6	8.3	8.3
TOTAL AVG		8.8	23	13.0	13.5	13.5

## FUNDING IN POM AND EPP JUST MAINTAINS AGE

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# TACTICAL WHEELED VEHICLE

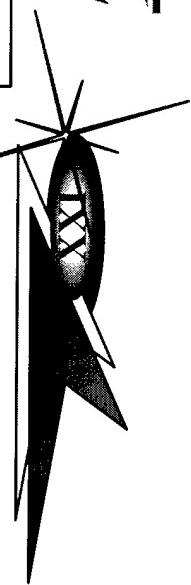
## USEFUL LIFE

### DETERMINATION PROGRAM

#### (TWVULDPP)

- METRIC CURRENTLY USED TO DETERMINE FLEET REPLACEMENT TIMES.
- MID 1980'S METHODOLOGY.
- UPDATE REQUIRED BASED ON NEW DATA AVAILABLE FOR FLEET MANAGEMENT.
- IPT FORMED IN OCTOBER TO REVIEW. JOINT OPS/SARD CHAIR.
- FLEET PLANNING OFFICE IN TACOM HAS PROGRAM LEAD.
- LIGHT FLEET FIRST TO BE REVIEWED.
- FINAL REPORT OCTOBER 1999.

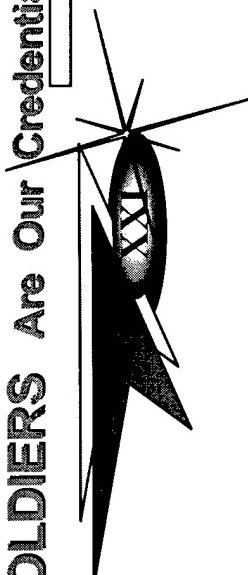
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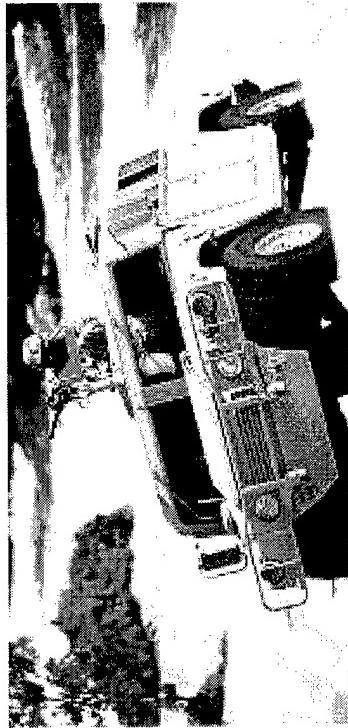
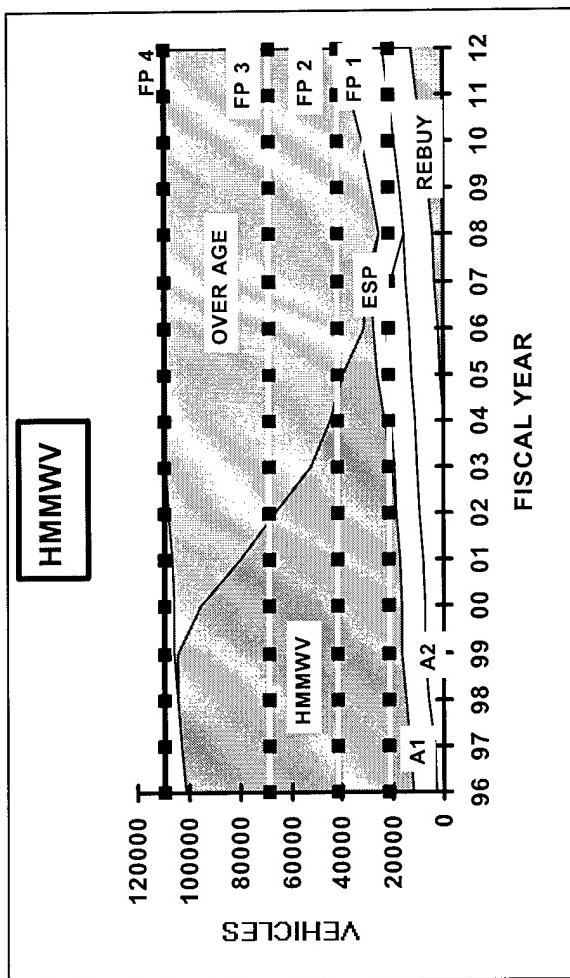
## ***TW/FLEET STATUS***

- LIGHT
- MEDIUM
- HEAVY TACTICAL
- HEAVY COMMERCIAL

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## HMMWV STATUS



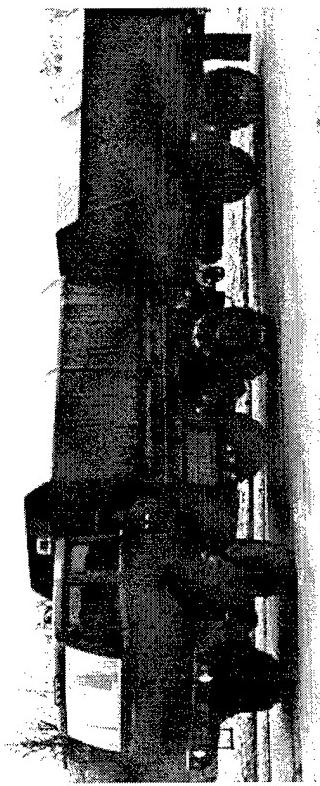
WILL REQUIRE ADDITIONAL FUNDING TO COMBAT  
OVER AGE PROBLEM. ANALYSIS BASED ON AoA TO BE  
SUBMITTED TO CONGRESS THIS QUARTER.

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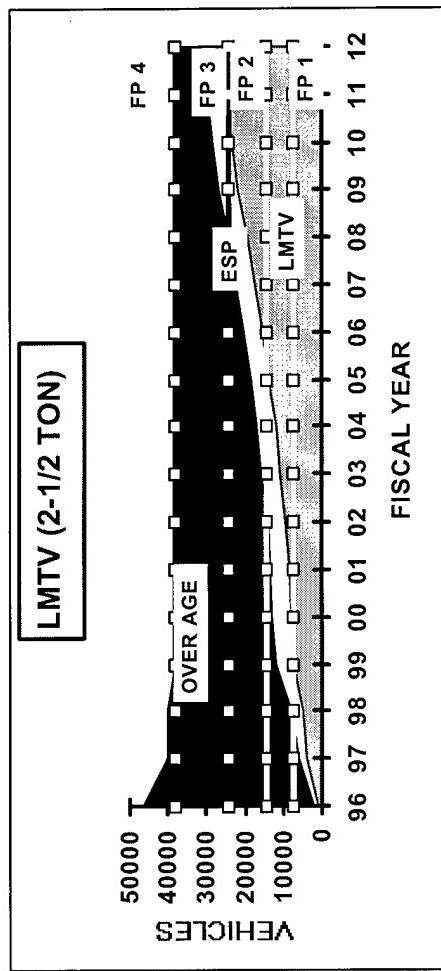
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## LMTV (2-1/2 TON) STATUS



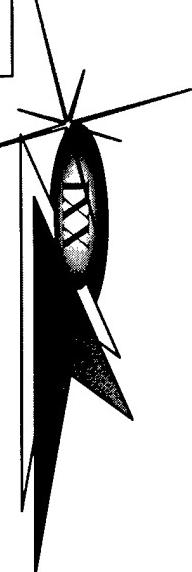
**LMTV (2-1/2 TON)**



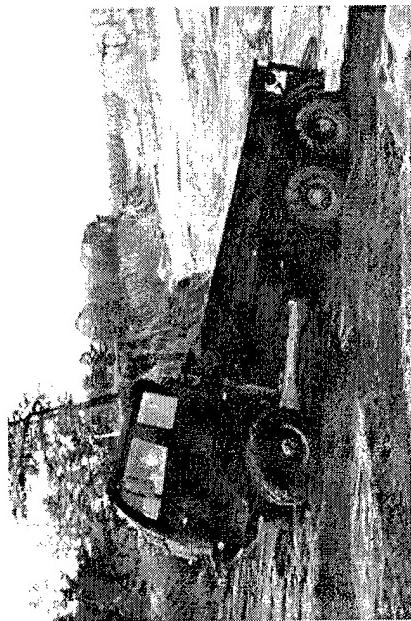
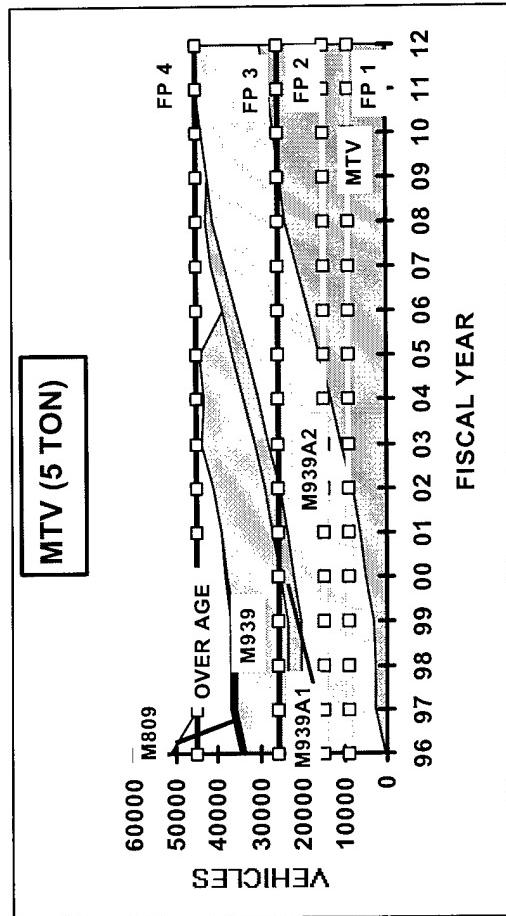
**MOVEMENT OF FUNDS FROM ESP HELPPS  
IMPROVE VEHICLE FILL!**

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## MTV (5-TON) STATUS

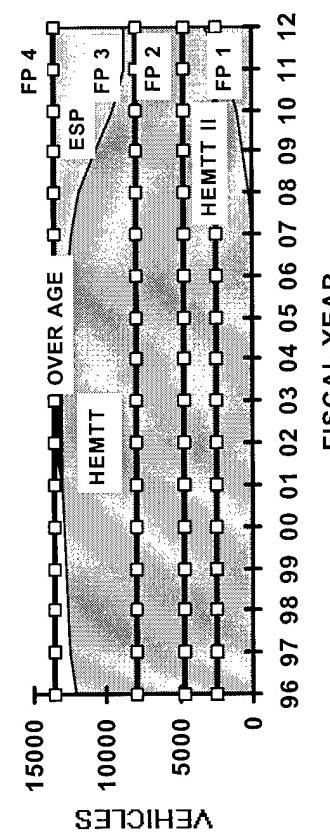
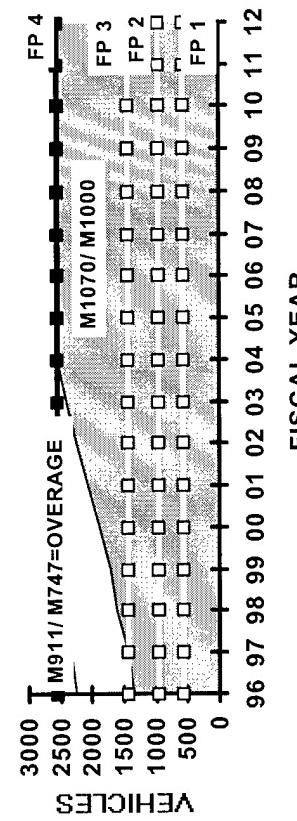
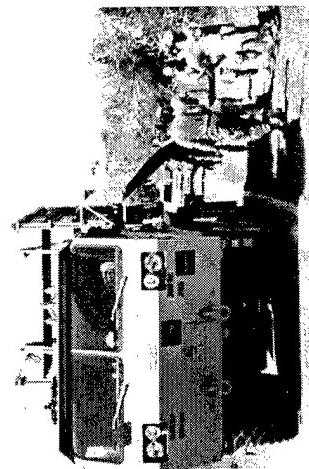
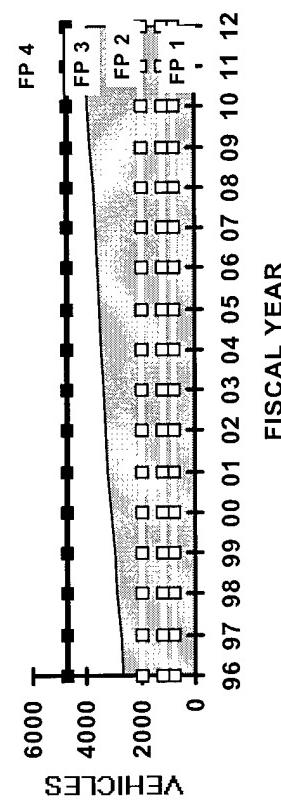
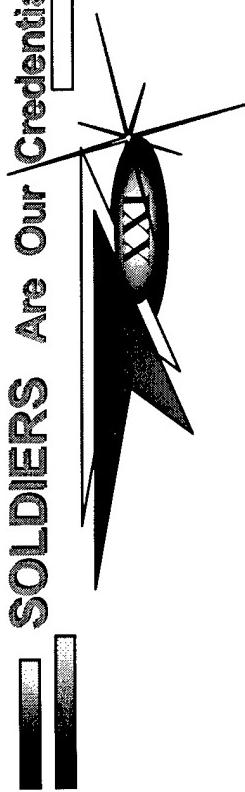


OVERALL THE FIVE TON FLEET REMAINS  
IN GOOD SHAPE.

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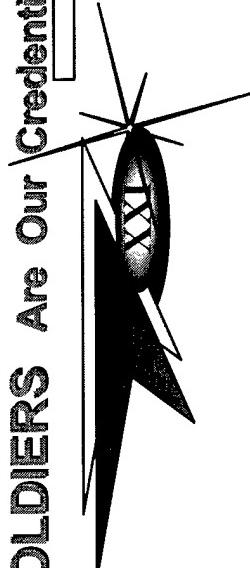
## HEAVY TACTICAL TRUCK STATUS



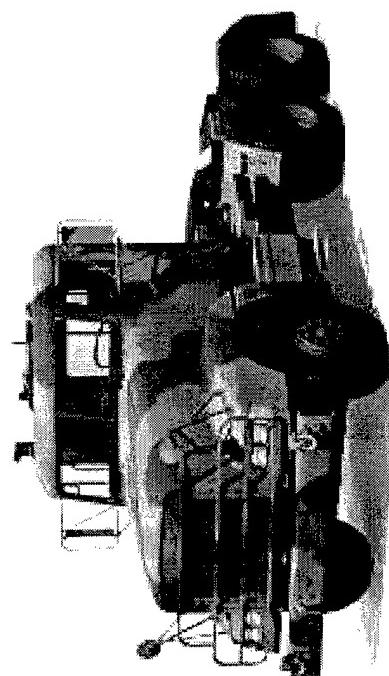
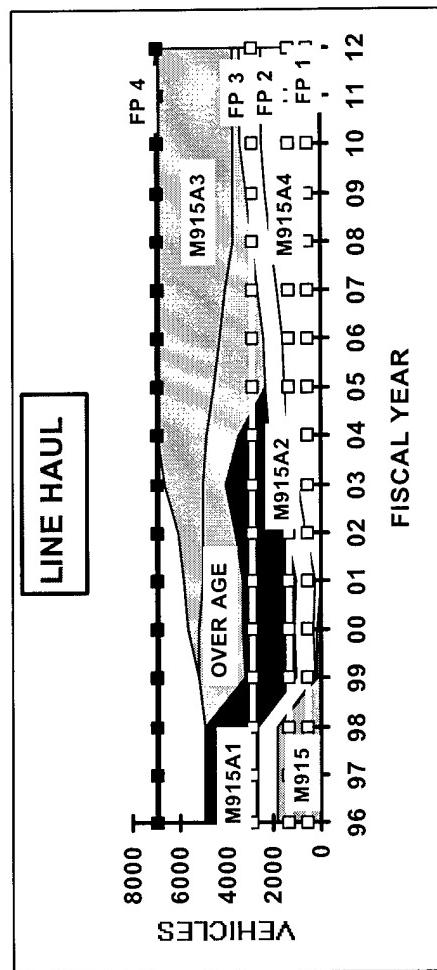
## OVERALL HEAVY FLEET IN GOOD SHAPE

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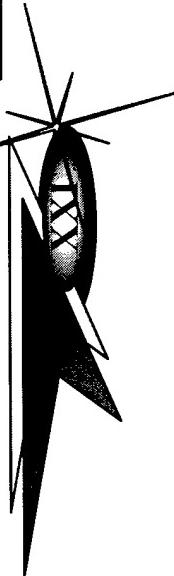
## LINE HAUL TRACTOR STATUS



**LINE HAUL FLEET IN GOOD SHAPE. MAJORITY  
OF NEW TRUCKS ARE FOR NG AND AR.**

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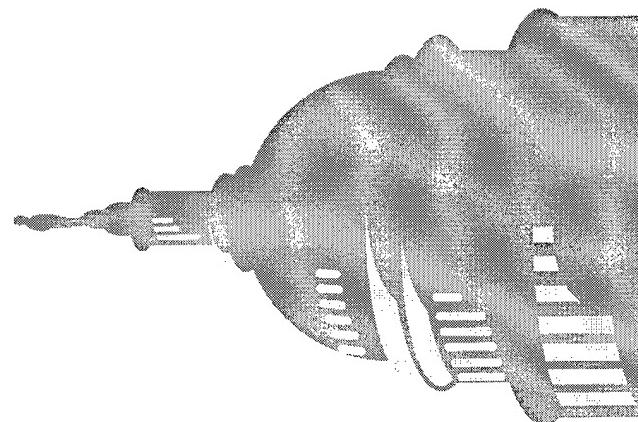
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## CONGRESSIONAL SUPPORT

### **KEY PLUS UPS:**

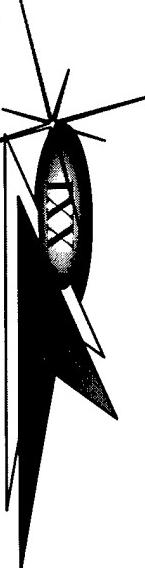
- \$3.8M FORWARD REPAIR SYSTEM - HEAVY(FRS-H) - WRAP FUNDING
- \$55M HMMWV PRODUCTION.
- \$13.2M 2-1/2 TON EXTENDED SERVICE PROGRAM (ESP).
- \$6M SELF LOAD/OFF-LOAD TRAILER.



**OVERALL: +\$82.6M - \$26.9M = NET \$55.7M**

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## **SUMMARY**

- FUNDING FOR TACTICAL WHEELED VEHICLES CONTINUES TO HOLD UP WELL.
- LIGHT FLEET AoA BASE FOR FUTURE COURSE.
- NATIONAL GUARD AND ARMY RESERVE TO RECEIVE NEW TRUCKS AND TRAILERS
- METRIC TO DETERMINE FLEET REPLACEMENT UNDER REVIEW.
- THANKS TO INDUSTRY AND CONGRESS FOR CONTINUED SUPPORT OF PROGRAMS.





# 1999 NDIA Tactical Wheeled Vehicles Conference

*Marine Corps  
Systems Command*

**Col Mike Kephart, USMC**

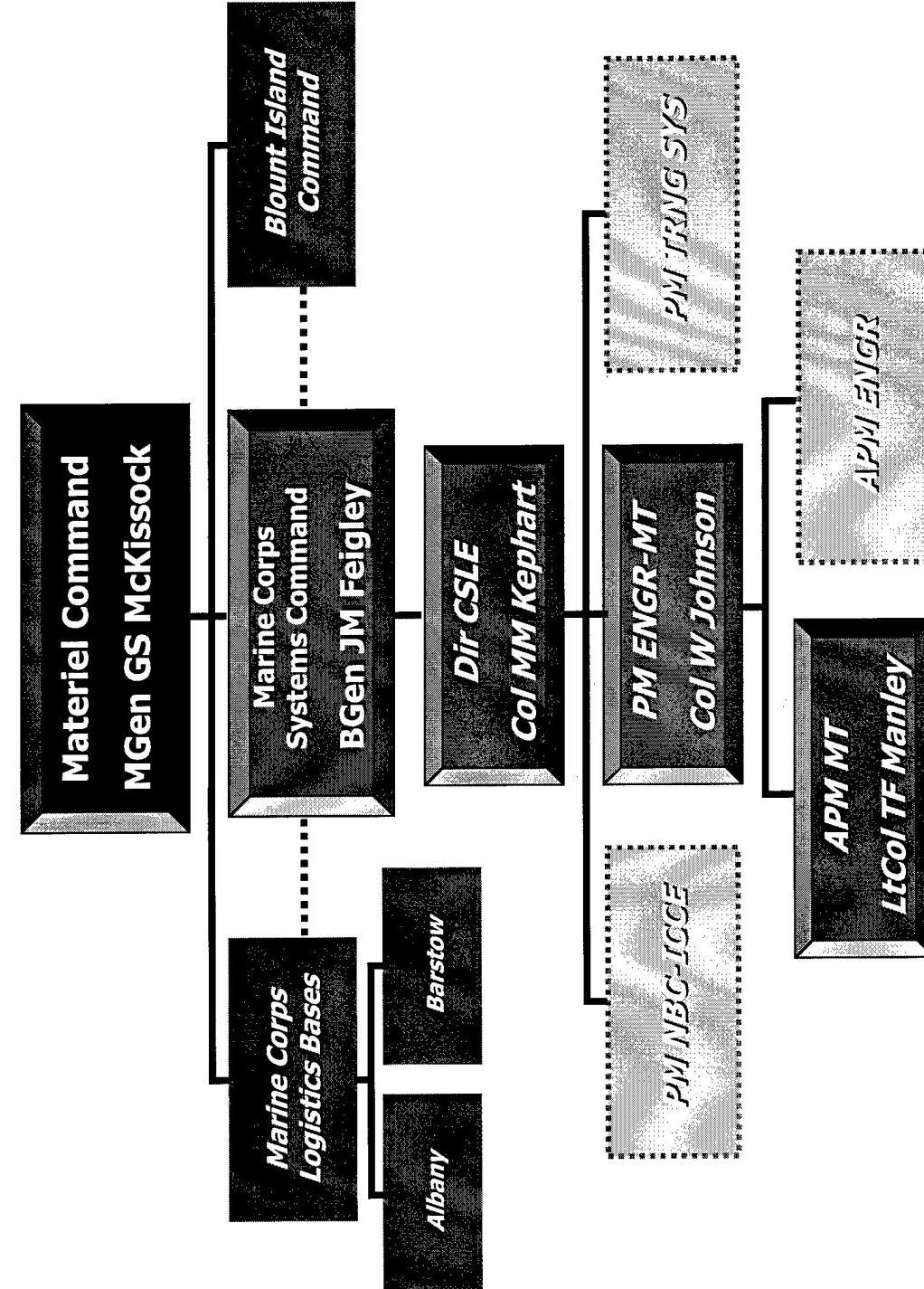
Director, Combat Support & Logistics Equipment

## *Agenda*

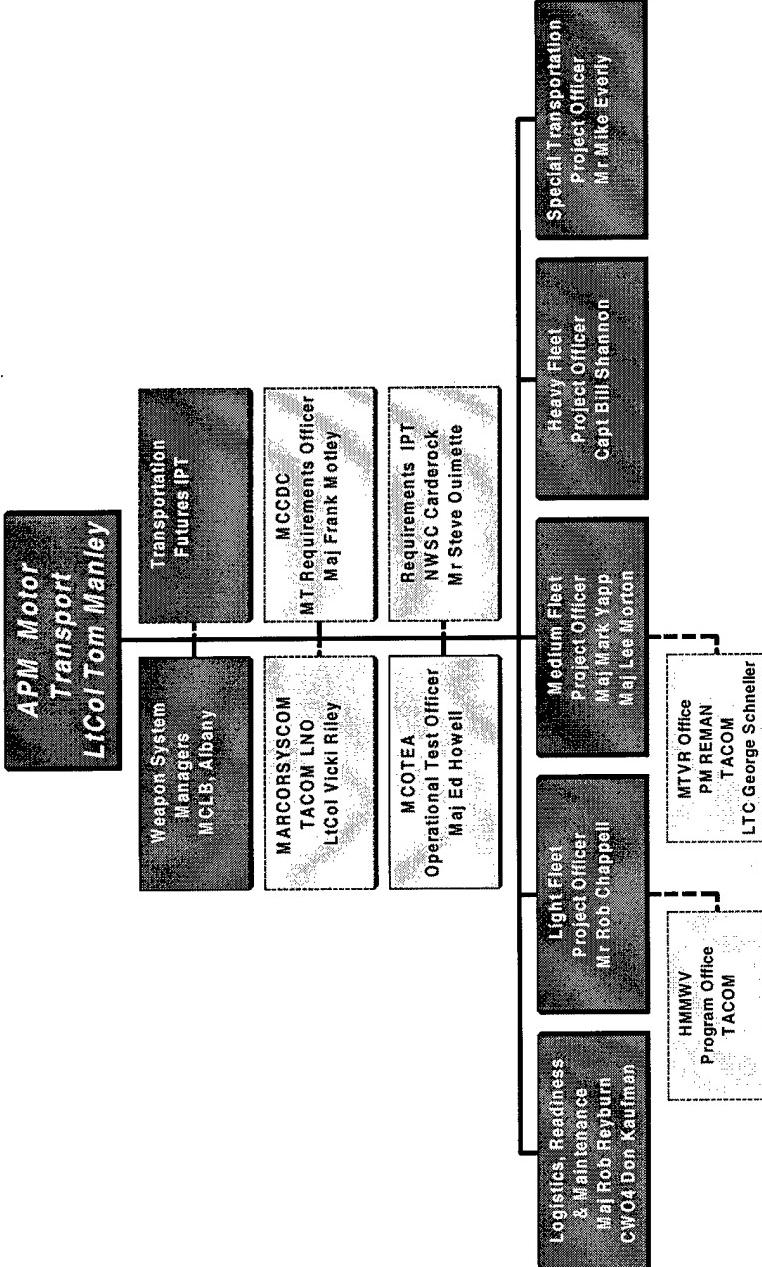
- *Marine Corps Materiel Command*
- *CSLE Organization*
- *Programs*
- *Future Challenges*
- *What You Can Do*



# **Marine Corps Materiel Command**

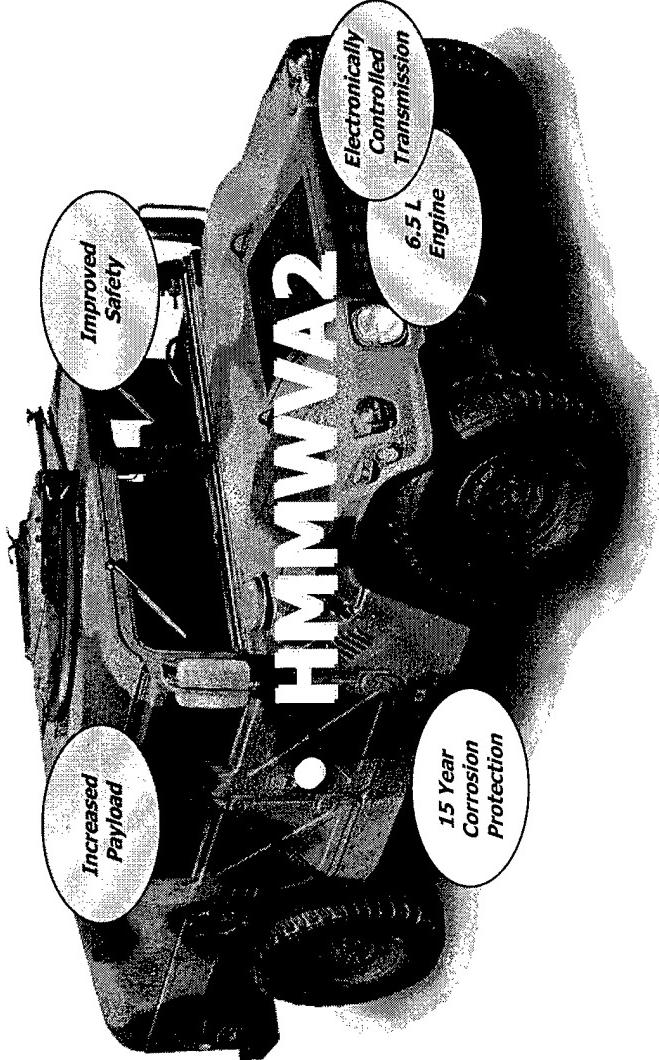


# APM Motor Transport



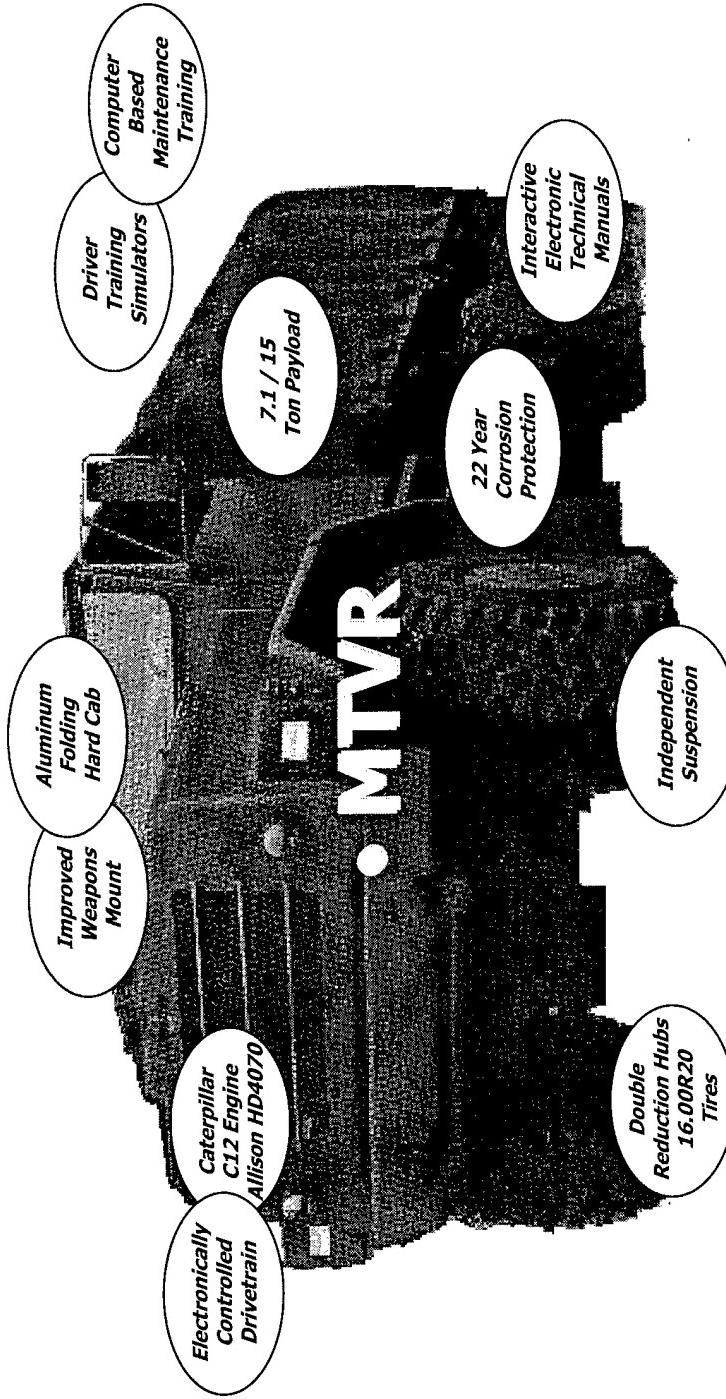
**Mission:** Provide the management and support for Materiel Life Cycle Management (MLCM), to include research, development, acquisition & sustainment, of Motor Transport and associated transportation systems in order to support OMFTS and STOM while reducing TOC.

## *Light Fleet*



- **HMMWV**
- **M101A3 / M116A3 Trailers**
- **Internally Transportable - Light Tactical Vehicle (IT-LTV)**

## Medium Fleet

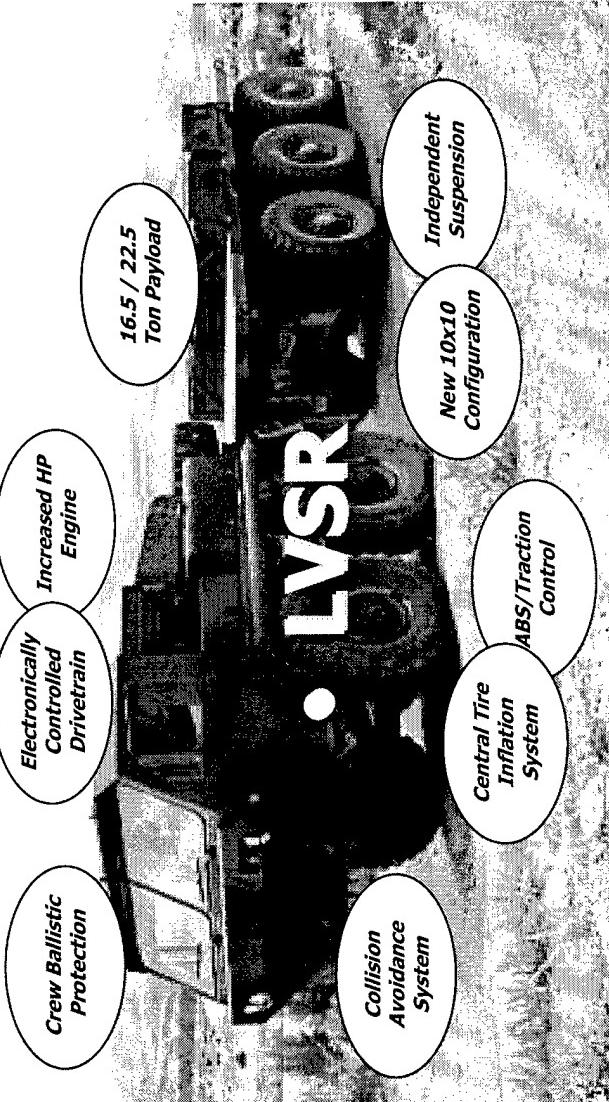


### • M809/939 5-Ton Series Trucks

#### • Medium Trailers

- M105 / M149 / M353 Trailers
- MTVR Trailers

## **Heavy Fleet**



- **M870A2 Lowbed Semitrailer**

- **Tactical Fuel Transport & Refueling**

- M970 Refueler Semitrailer
- Aircraft Refueling Capability (ARC)

- **Commercial Tractor**

## Special Fleet



- P-19A Crash, Fire & Rescue
- Heavy Equipment Transporter (70+ Ton)
- Motor Transport Modification Program

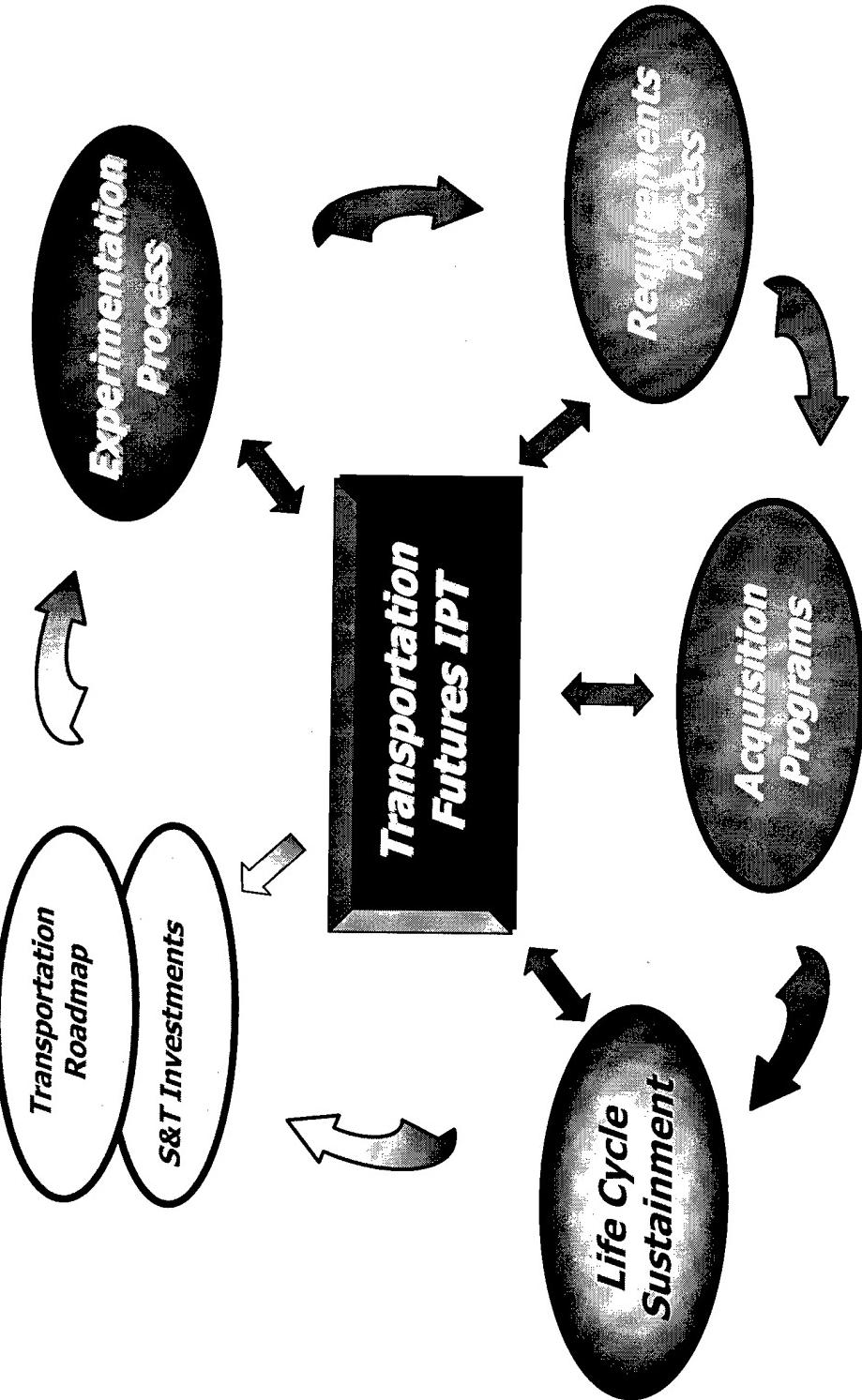
## *Transportation Futures IPT*

*Mission: Establish & execute a multi-disciplinary approach to addressing all the issues related to fielding the current & future fleet of transportation & distribution assets to support future Marine Corps Operations*

- **Goals**
  - Establish, refine & reinforce transportation systems acquisition
  - Identify & analyze applicable emerging technologies
  - Examine strategies to streamline procurement & fielding
  - Identify, analyze & resolve critical programmatic issues
  - Provide historical visibility into the decision making process
- **Meets Quarterly**

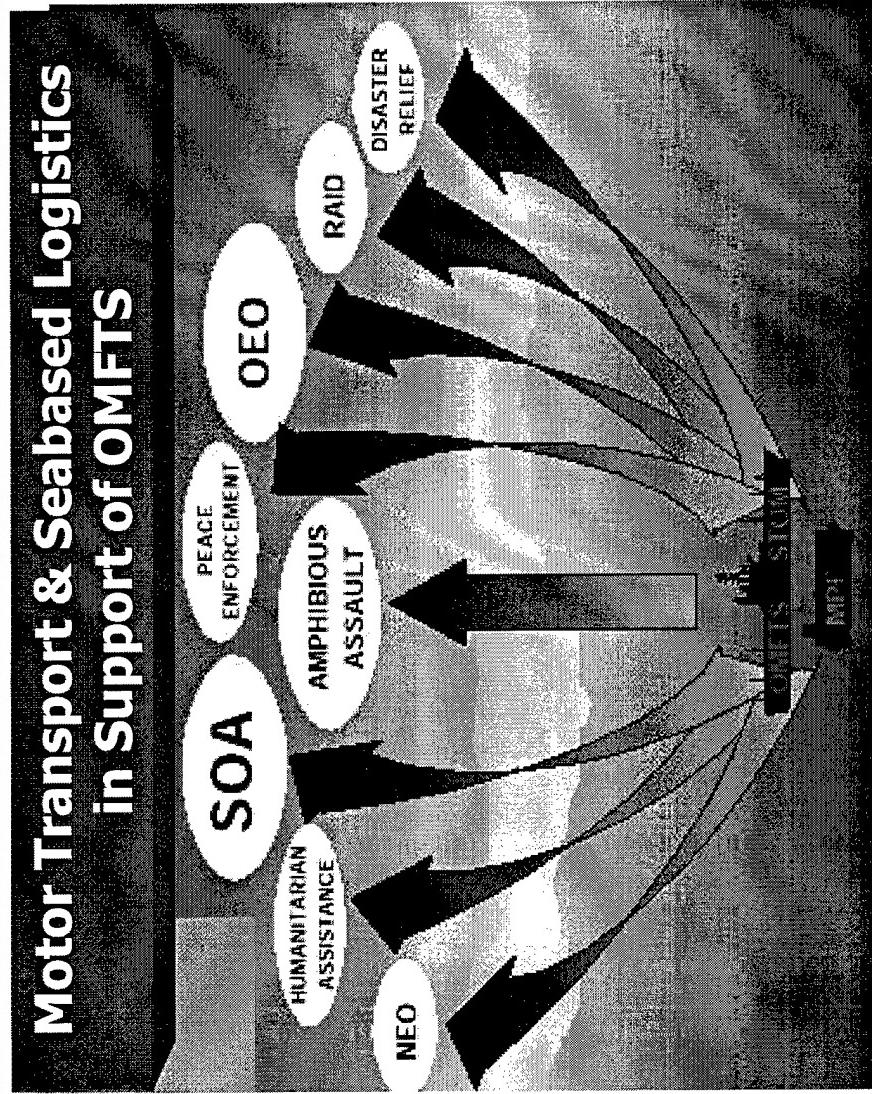
**Provide the Marine Corps Transportation "Roadmap"**

# *Transportation Futures IPT*





## Motor Transport & Seabased Logistics in Support of OMFTS



- Primacy of the Sea Base Reduce or Eliminate the Footprint
- Reduced Demand Seabased Support - Light Force Ashore
- In-stride Sustainment Automated Logistics for Maneuver Units
- Adaptive Response Expanded Missions - Joint Support
- Reconstitute at Sea Build & Restore Combat Power



## *Reduce Burden of Logistics Support*

## *Precision Logistics vs Traditional Logistics Tail*

### *Logistics Support Systems That ...*

- Use less fuel
- Require little or no maintenance over a given period, e.g., a month
- Can predict internal failures
- Leverage Technology
  - Maintenance free batteries
  - Reusable filters
  - Onboard oil analysis

**Logistics Focused on Supporting Operational Forces**



## *Reduce Total Ownership Costs*

- *Maintenance*
  - Shorter, more responsive repair part pipelines
  - More precise repair parts accountability
  - Predictive maintenance capabilities
- *New Technology*
  - Fewer, more reliable batteries
  - Reusable filters & Onboard oil analysis
- *Industry Experience & Best Practices*

**Do It Cheaper By Doing It Smarter**

## *Corrosion Protection*



- *Corrosion is #1 Maintenance Problem*
  - Marine Corps environment
  - BIG impact on vehicle life
- *Two Approaches*
  - Design into new system (*MTVR & HMMWVA2*)
  - Fixing Existing Systems
    - Less clear solutions
    - Potentially more difficult & costly than new
- *What Is Out There & What Can Work?*

**Makes Otherwise Sound Vehicles Unsatisfactory**

Slide 14

## *Best Use of Technology*

- *What is Out There?*
- *Is It Applicable for ...*
  - Insertion into existing systems
  - Design into new systems
- *What Is Impact on TOC?*
- *Improve the Process*
  - Models & Simulation throughout System Life Cycle
  - Integrated Process & Product Development



## *What You Can Do*

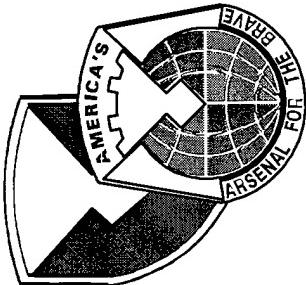


- *Let Us Know of Ways to Answer Challenges*
- *Ideas for the MT Modification Line*
  - Existing Commercial Solutions versus New Design
  - Talk to Project Officers
- *Better Ways to Facilitate ...*
  - Government - Industry Cooperation
  - Teaming

**Give Us Your Ideas for Solutions**



**TACOM**  
*Mobility and Firepower  
for America's Army*



# QUALITY ASSURANCE

## SUBCOMMITTEE REPORT

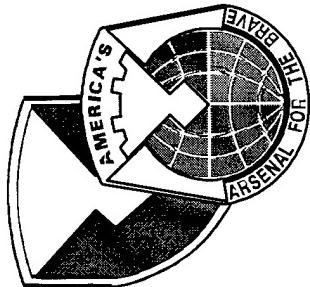
1 FEBRUARY 1999

Briefer: Ronald Scholtes  
Date: February 1, 1999

1/4

Tank-automotive & Armaments COMmand

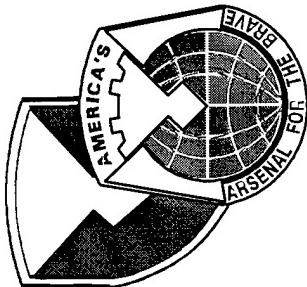
*Committed to Excellence*



## NEW APPROACH

- MID-YEAR MEETINGS
- TESTING COMMUNITY PERSONNEL
- JOINED OUR SUBCOMMITTEE





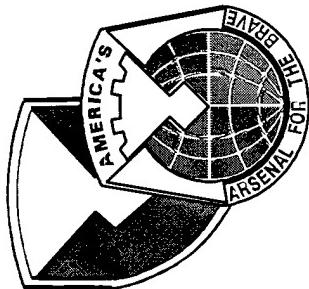
# AUGUST 1998

## TOPICS

- DLA POLICY FOR ISO 9000
- USING COMMERCIAL TEST STANDARDS
- ELECTRONIC DD250 PROCESS
- NATIONAL AUTOMOTIVE CENTER PROJECTS

3/4

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# JANUARY 1999

## TOPICS

- ACQUISITION REFORM UPDATE
- CURRENT NATIONAL AUTOMOTIVE CENTER PROJECTS
- ISO 9000 PROGRAM
- CONTRACTOR PERFORMANCE CERTIFICATION PROGRAM
- ELECTRONIC DD250 PROCESS
- TESTING USING COMMERCIAL STANDARDS

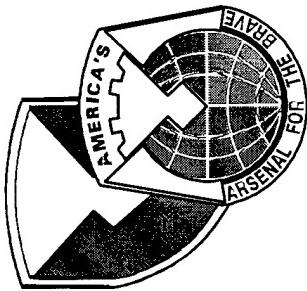
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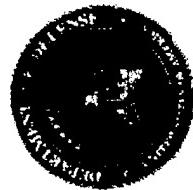
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# POINTS OF CONTACT

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TARDEC, Engineering Business Group  
Commercial (810) 574-6153  
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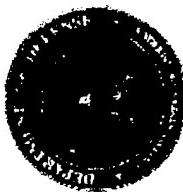
# DEFENSE SECURITY COOPERATION AGENCY: THE CHANGING ENVIRONMENT AND FMS RE- ENGINEERING

MR ROBERT KELTZ  
DEPUTY DIRECTOR,  
DSCA

1 FEBRUARY 1999

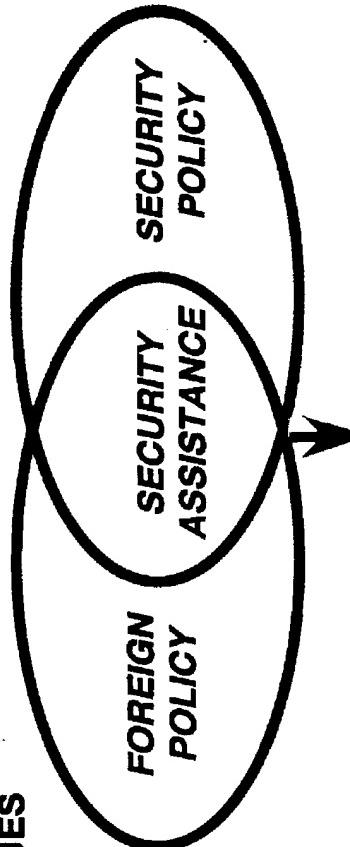


## SECURITY COOPERATION: A KEY POLICY TOOL FOR THE 21st CENTURY



- BUILD INSTITUTIONS TO KEEP AMERICANS SAFE AND THE WORLD PEACEFUL
- SUSTAIN OUR PROSPERITY AND EXPAND GLOBAL ECONOMY
- PROMOTE AMERICAN PRINCIPLES & VALUES

- TO ENHANCE OUR SECURITY WITH MILITARY FORCES THAT ARE READY TO FIGHT
- TO BOLSTER AMERICA'S ECONOMIC REVITALIZATION
- TO PROMOTE DEMOCRACY ABROAD



- COALITION BUILDING
- FORWARD PRESENCE
- INTEROPERABILITY
- REGIONAL STABILITY
- CRISIS MANAGEMENT
- THEATER DETERRENCE



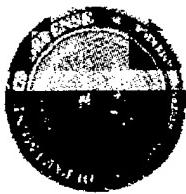
## MILITARY ASSISTANCE PROGRAM



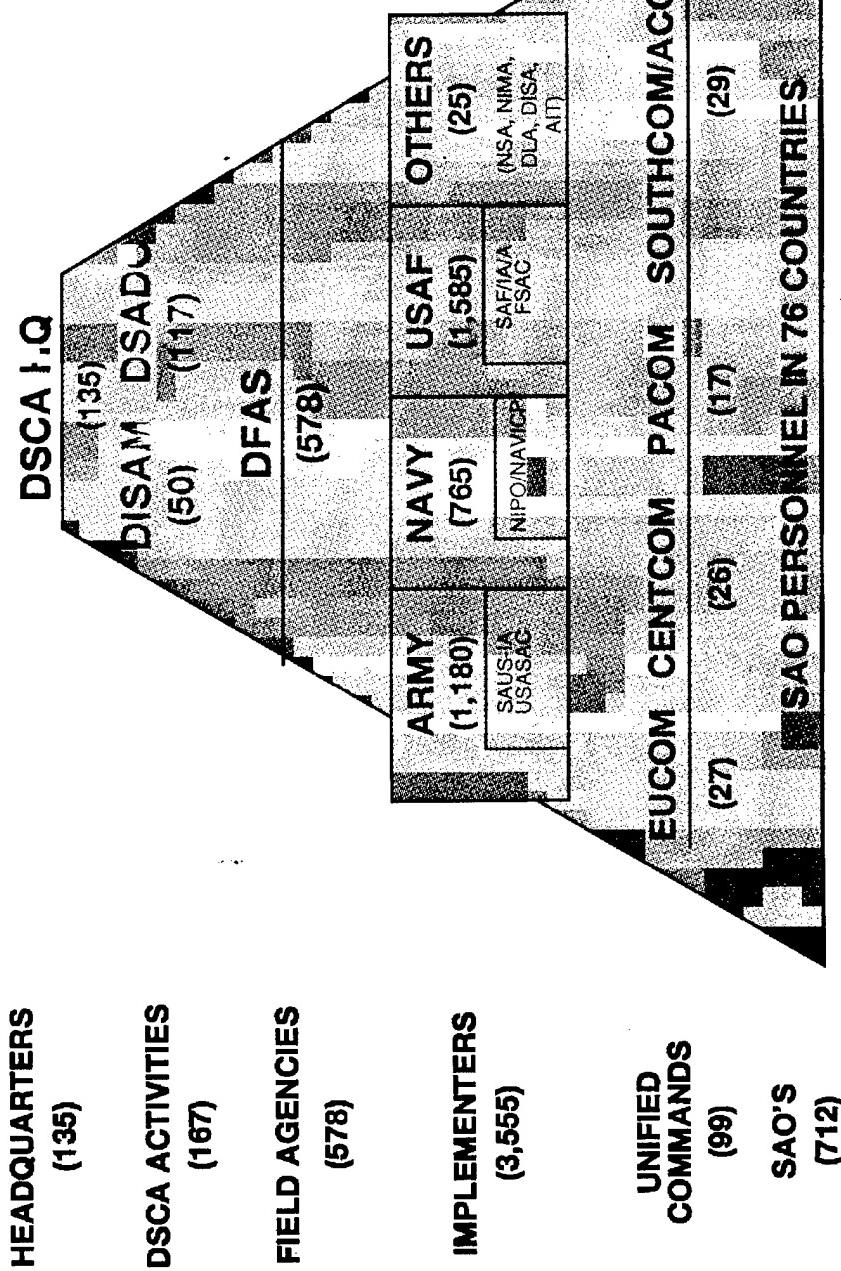
- FMS SALES = \$8.6B & FMS DELIVERIES = \$13.9B IN FY98
- SALES TO 137 COUNTRIES AND INT'L ORGANIZATIONS
- PIPELINE OF \$70B IN PRIOR YEAR SALES
- OVER \$3B IN GRANT ASSISTANCE IN FY97 - FY99
- IMET PROGRAMS OF \$50M WITH 118 COUNTRIES IN FY99
- DSCA OVERSEES 15,000+ FMS CASES WORTH \$222B
- DSCA MANAGES \$370M IN FY99 ADMINISTRATIVE BUDGETS
- SECURITY ASSISTANCE FY98 WORK-YEARS: 5,246
- 712 SAOs IN OVERSEAS SA ORGANIZATIONS



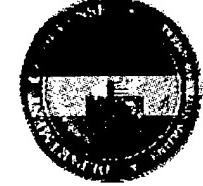
## FUNCTIONAL VIEW OF SECURITY ASSISTANCE COMMUNITY



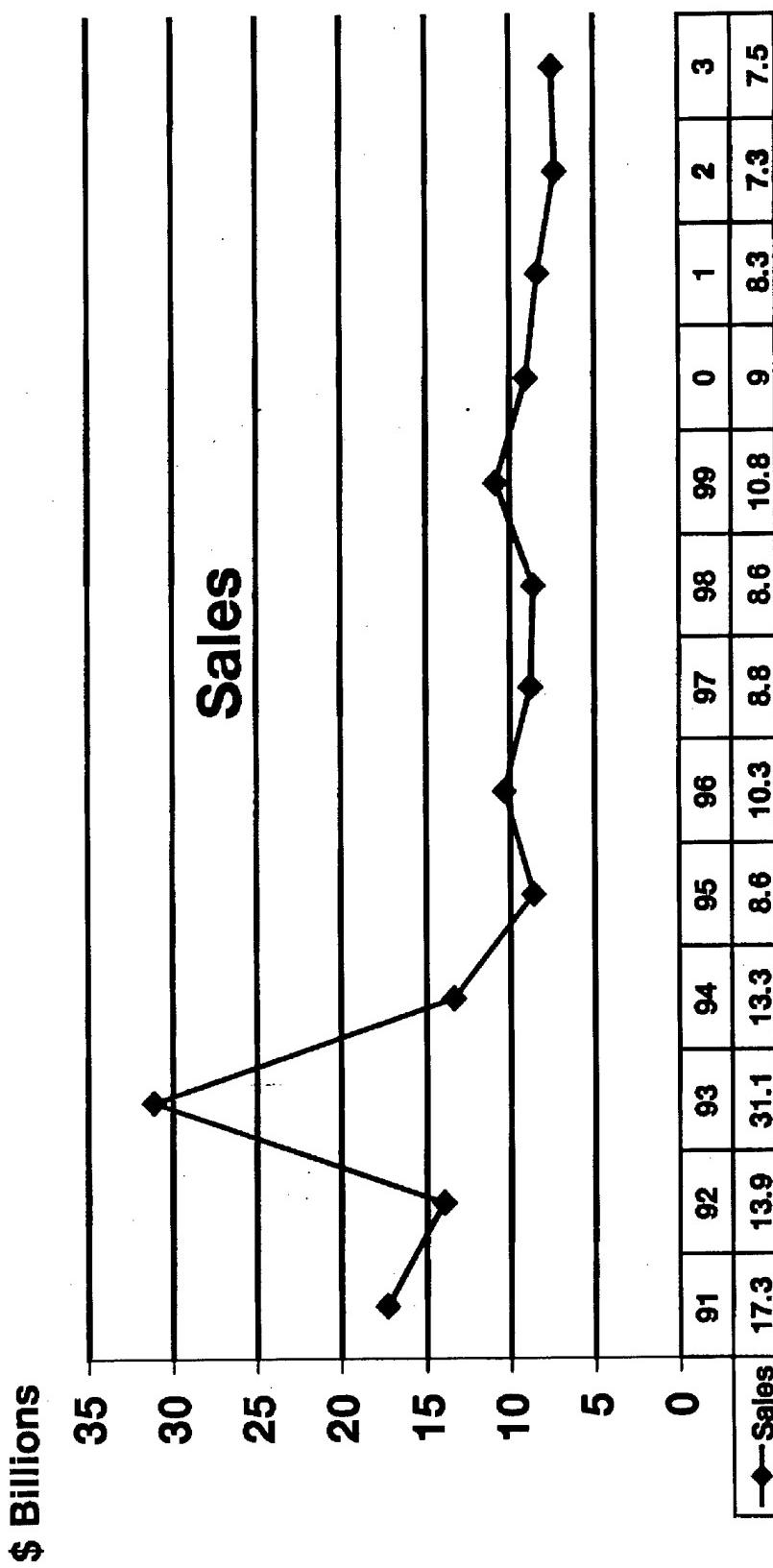
5,246 WORK YEARS      FY 98



179



## FOREIGN MILITARY SALES: WORLDWIDE SALES



171

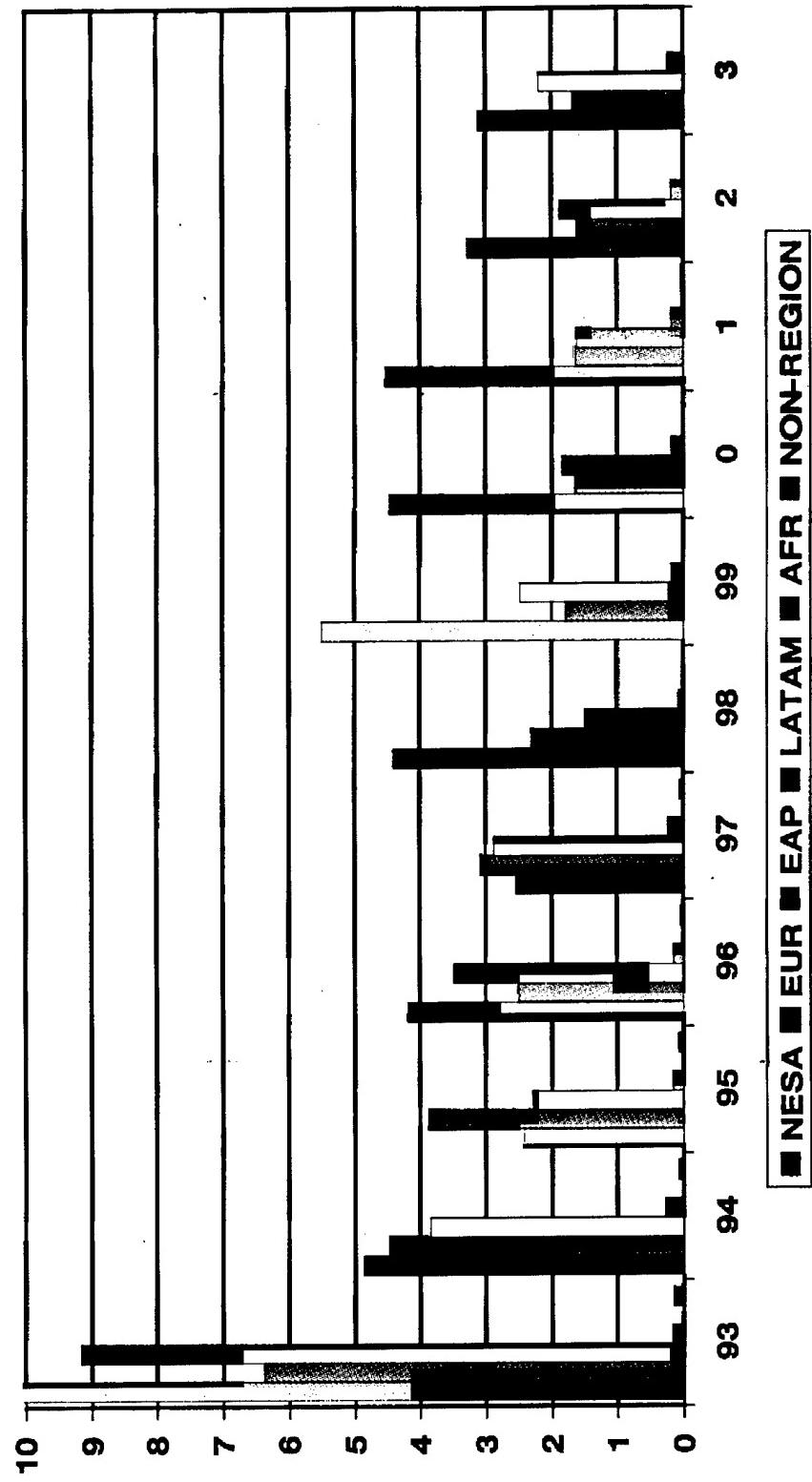


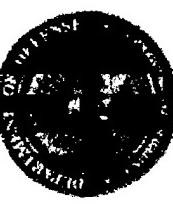
# FOREIGN MILITARY SALES:

## Regional Breakdown



(in Billions)

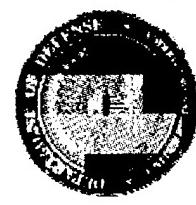




## U.S. GOVERNMENT TACTICAL WHEELED VEHICLE SALES



- NOT REALLY ANY NEW SALES PENDING OR ON HORIZON
  - SOME MINOR SUSTAINMENT CASES FOR EXISTING FLEETS
- BULK OF SALES GO ON DIRECT COMMERCIAL BASIS (CUSTOMER PREFERENCE)
- VARIABLES AT WORK IN MARKETPLACE THAT WE CAN'T CONTROL
  - DESIRE OF CUSTOMERS TO GO INDIGENOUS WHENEVER POSSIBLE
  - MANY VIABLE PRODUCERS



## DSCA MAJOR EFFORTS



External

Internal

- RE-ENGINEER THE FMS PROCESS AND MEET CUSTOMER NEEDS

- IMPLEMENT AGENCY 5 YEAR STRATEGIC PLAN

- MAINTAIN SECURITY ASSISTANCE TRUST FUND SOLVENCY

- COMPLETE AGENCY'S BUSINESS PERFORMANCE PLAN FOR DEFENSE MANAGEMENT COUNCIL

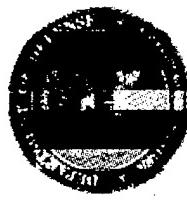
- MAINTAIN SOLVENCY OF CUSTOMER TRUST FUNDS

- DEVELOP & FIELD DSAMS

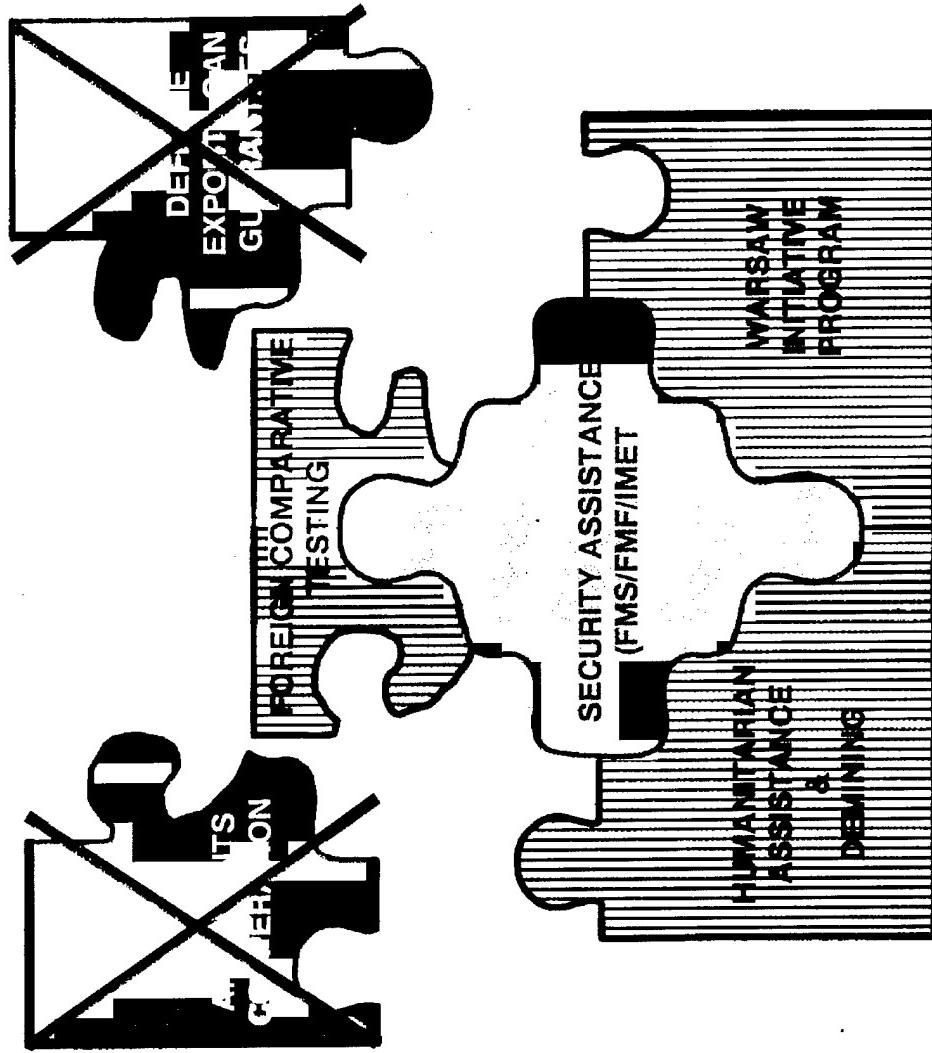
- ENSURE CONTINUED VIABILITY OF AGENCY



## FUNCTIONS ACQUIRED UNDER DEFENSE REFORM INITIATIVE

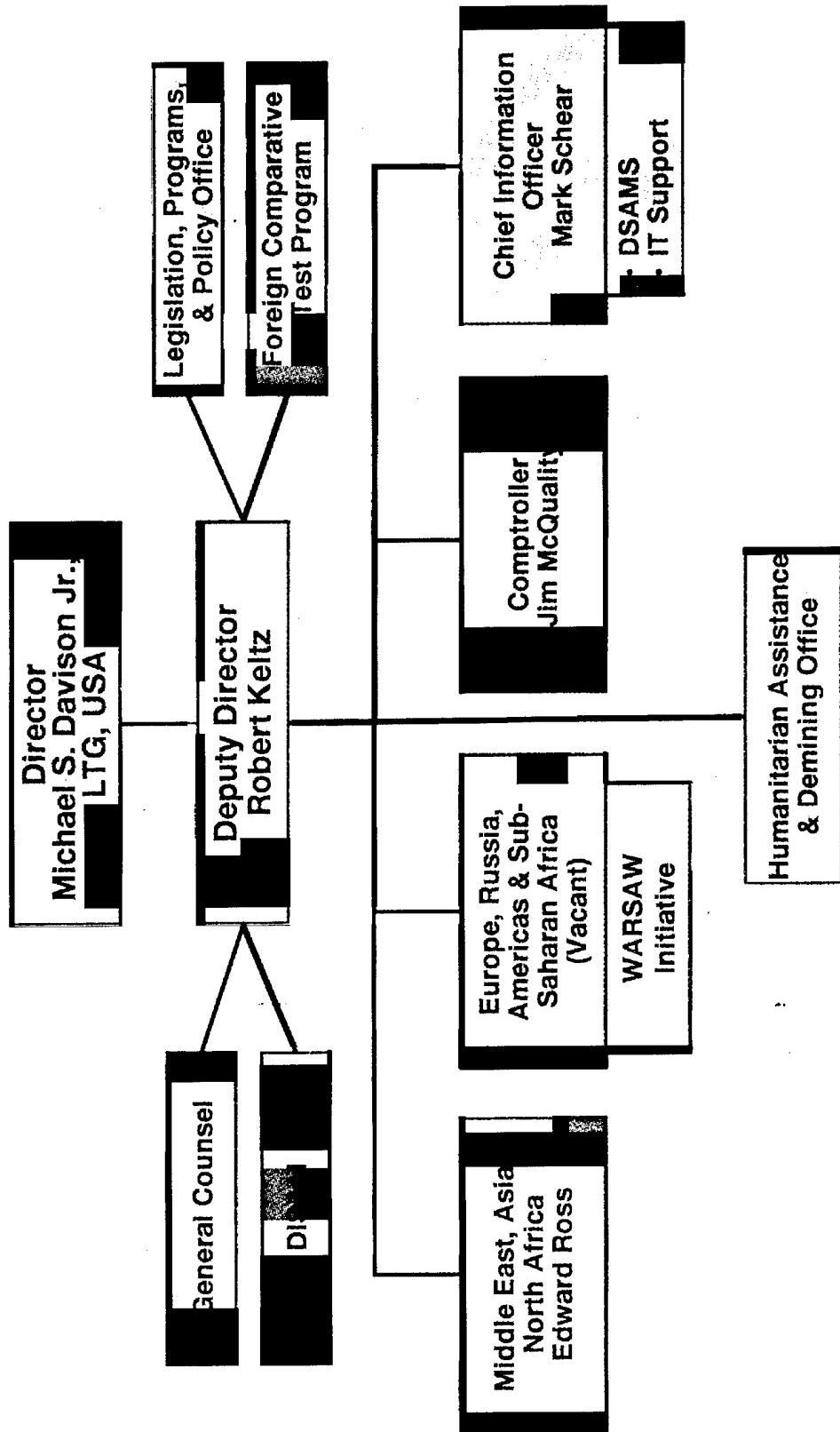
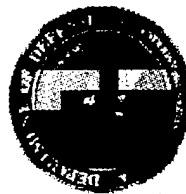


- HA/D PROGRAMS TRANSFERRED TO DSCA - MARCH 1998
- WARSAW INITIATIVE (PFP) PROGRAM MANAGEMENT FUNCTIONS - AUG 98
- FOREIGN COMPARATIVE TEST PROGRAM - AUG 98
- INTERNATIONAL ARMAMENTS COOPERATION/DEFENSE EXPORT LOAN GUARANTEE PROGRAM - NOT COMING TO DSCA

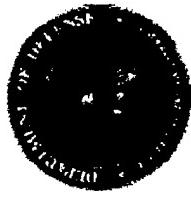




# DEFENSE SECURITY COOPERATION AGENCY (DSCA)



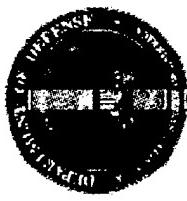
## **AGENCY STRATEGIC PLANNING**



- RESPONDS TO THE GOVERNMENT PERFORMANCE AND RESULTS ACT
- DEPSECDEF DIRECTION REQUIRES PERFORMANCE CONTRACTS FOR ALL DEFENSE AGENCIES
- PLAN SETS SPECIFIC, MEASURABLE PERFORMANCE OBJECTIVES FOR DSCA
  - BASIS FOR PERFORMANCE CONTRACT BETWEEN DSCA DIRECTOR AND THE DEPSECDEF
  - WILL BE PART OF THE DSCA ANNUAL PROGRAM OBJECTIVE MEMORANDUM (POM) SUBMISSION



## RE-ENGINEERING THE FMS SYSTEM

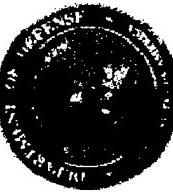


## WRAPPED in RE-TAPE

- FMS SYSTEM FACING CHALLENGES
- INDUSTRY WANTS MORE FROM FMS SYSTEM
  - RAPID POLICY DECISIONS
  - STRONGER ADVOCACY
  - MORE SUPPORT FOR SALES EFFORTS
- MAJOR CUSTOMERS WANT:
  - GREATER PARTICIPATION
  - SHORTER TIMELINES
  - FASTER RELEASE APPROVALS
  - FEWER SURCHARGES



***Customers Abandon FMS;  
Cite High Cost, Inflexibility***



# DEVELOPING A CONSENSUS FOR CHANGE



OSD STAFF

AIA ABA

NAVY

DSCA

AIR FORCE

NDIA

DLA

ALESA

ARMY

ARMS TRANSFER

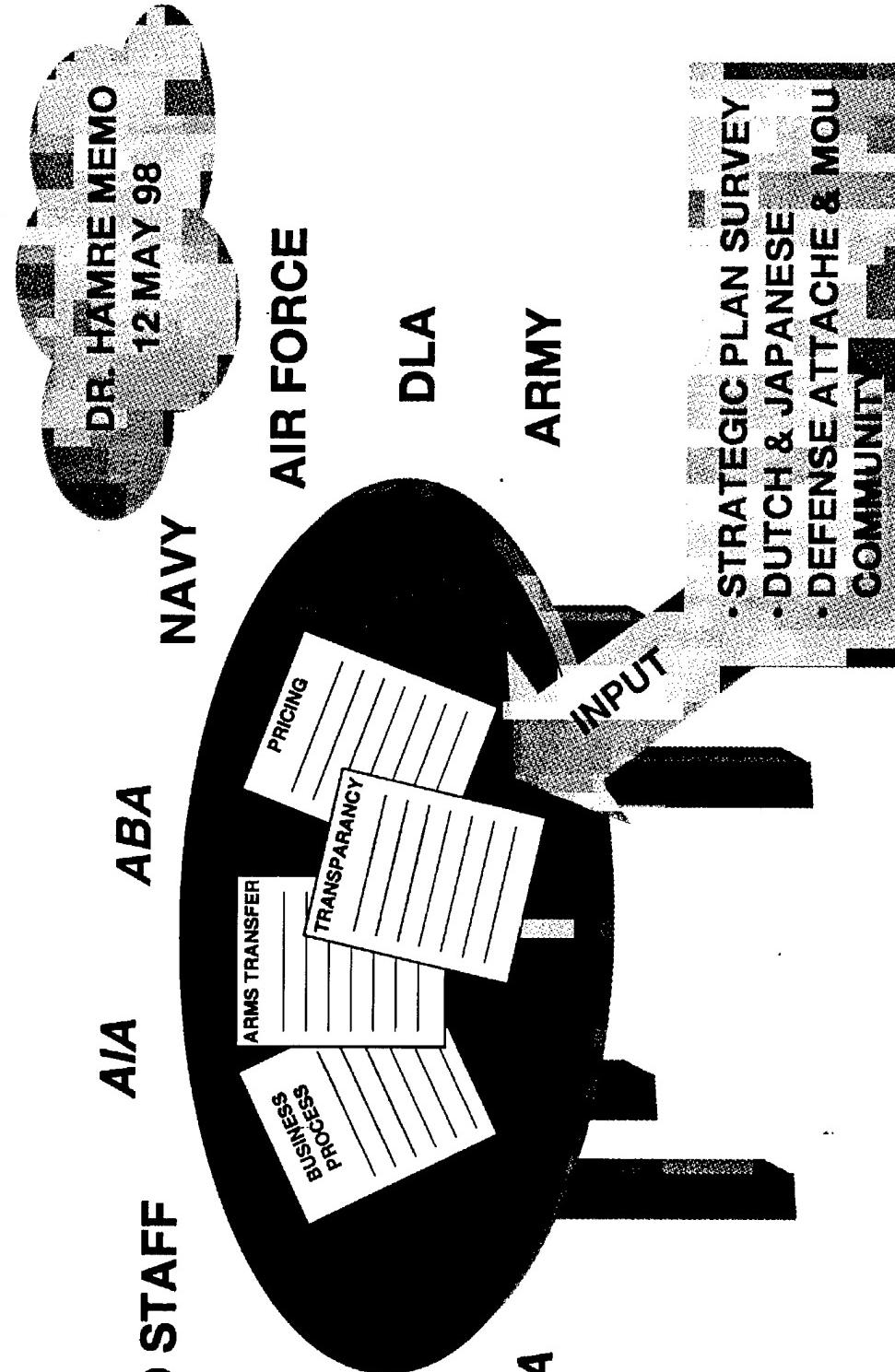
PRICING

TRANSPARENCY

BUSINESS  
PROCESS

INPUT

- STRATEGIC PLAN SURVEY
- DUTCH & JAPANESE DEFENSE ATTACHE & MOU COMMUNITY





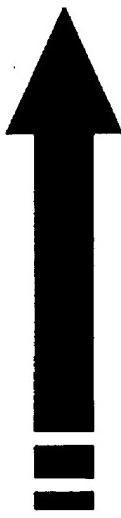
## NEEDED ACTIONS



### TRANSPARENCY\*

(9 & 23 NOV)

- RELATIONSHIP WITH INDUSTRY
- LOA PREPARATION
- CONTRACT PREPARATION



- RELATIONSHIP WITH INDUSTRY POLICY MEMO\*
- DSCA POLICY MEMO
- FOREIGN CONTRACTING POLICY MEMO

### PRICING, COST RECOVERY\*

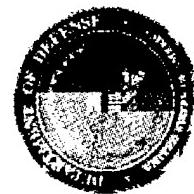
(18 NOV & 9 DEC)

- INTE/FFP LOAS
- ADJUST FMS SURCHARGES
- USG COST RECOVERY
- ALTERNATIVES TO DFAS/DCMC



- LEGISLATIVE CHANGE
- ACTIVITY BASED COSTING ANALYSIS
- LEGISLATIVE CHANGE
- POSSIBLE OUTSOURCING

\* Presented to DPACT 26 Jan 99



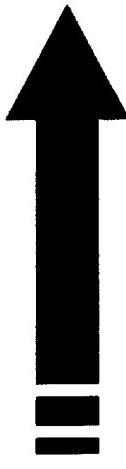
## NEEDED ACTIONS



### TECH TRANSFER

(30 NOV & 14 DEC)

- ARMS TRANSFER POLICY REVIEW GROUP
- IMPROVE BUREAUCRATIC PROCESS
- FOREIGN DISCLOSURE



- ATPRG POLICY MEMO ('18 DEC 98)\*
- POSSIBLE/TAR REVISIONS
- ASSESSMENT OF INFORMATION RELEASE CRITERIA
- USDP/POLICY ON ACCESS

### METRICS/PROCESS RE-ENGINEERING

(18 DEC)

- DEVELOP PERFORMANCE MEASURES
- RE-ENGINEER ENTIRE SECURITY COOPERATION PROCESS



- METRICS EFFORT BEGUN (OCT 98)
- CONTRACTOR SUPPORT IMPLEMENTED

\* Presented to DPACT 26 Jan 99



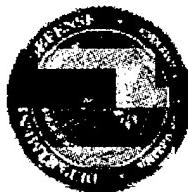
## CURRENT ACTIVITIES



- 8 JAN - FINAL COORDINATION WITH INDUSTRY ON 1ST TWO WHITE PAPERS
- 11 JAN - DPACT COORDINATION
- 26 JAN - DPACT
- 8 FEB - MEET WITH MILDEPS TO COORDINATE RE-INVENTION EFFORTS

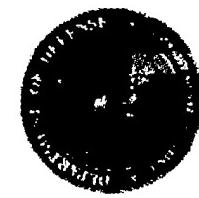


## COMPLETING REMAINING GROUNDWORK



### TWO WHITE PAPERS TO BE FINISHED

- ARMS TRANSFER & TECHNOLOGY/DATA RELEASE
  - DSCA AND DUSD(PS) COOPERATIVELY REWRITE PAPER
  - VET PAPERS THROUGH DoD COMMUNITY AND INDUSTRY
  - TARGET COMPLETION DATE 15 MARCH
- METRICS & PROCESS RE-ENGINEERING
  - PAPER BEING CO-DEVELOPED WITH MILDEPS AND DLA
  - TARGET COMPLETION DATE 29 MARCH



## THE FUTURE

- SECURITY COOPERATION REFLECTS ON USG AND DEMONSTRATES COMMITMENT TO SECURITY NEEDS OF OUR FRIENDS AND ALLIES
- SECURITY COOPERATION WILL CONTINUE TO BE AN IMPORTANT TOOL FOR POLICY MAKERS
- WE CAN EXPECT:
  - CONTINUED SCRUTINY OF FOREIGN AID REQUESTS
  - CONTINUED PRESSURE TO REDUCE MANPOWER RESOURCES
  - INCREASED COMPETITIVE MARKET FOR SMALLER DEFENSE BUDGETS





## AGENCY VISION



**TO BE THE PREMIER AGENCY RECOGNIZED AND RESPECTED  
FOR LEADERSHIP, EXPERTISE, INNOVATION, AND RESULTS IN  
SECURITY COOPERATION...**

- A HIGHLY QUALIFIED TEAM OF MOTIVATED PROFESSIONALS
- VITAL TO SUPPORTING US INTERESTS AND SECURITY  
RELATIONSHIP
- THE INTERNATIONAL PARTNER OF CHOICE  
...MASTERING THE CHALLENGES OF A CHANGING GLOBAL  
ENVIRONMENT.

*Decisive*

*Supportive*

*Committed*

*Accessible*

**21ST TAACOM**

# **UPDATED USAREUR HAZARDOUS MATERIEL HANDLING REQUIREMENTS**

***HOW DOES IT AFFECT FLEET READINESS?***



# **21ST TAACOM AGENDA**

- BACKGROUND
- 
- ISSUES
- HAZMAT DRIVER'S LICENSING REQUIREMENTS
- HAZMAT UNIT SAFETY OFFICER REQUIREMENT
- HAZMAT TRANSPORTATION WAIVERS
- JOINT VEHICLE INSPECTION
- ANNUAL B3 VEHICLE CERTIFICATION
- CONCLUSIONS

## **21ST TAACOM**

### **BACKGROUND**

- **MARCH 1998 - SUPPLEMENTAL AGREEMENT TO SOFA GOES INTO EFFECT**

- **AUTHORIZES NATO HOST NATIONS TO ENFORCE COMPLIANCE WITH LOCAL ENVIRONMENTAL AND HAZMAT REGULATIONS AND LAWS BY U.S. FORCES STATIONED IN EUROPE**

- **U.S. FORCES UNABLE TO IMMEDIATELY COMPLY WITH EUROPEAN REGULATIONS AND LAWS**

- **U.S. FORCES FORCED TO ADOPT "PHASE-IN" COMPLIANCE**

## **21ST TAACOM**

### **ISSUES**

- WAIVER OF REQUIREMENTS PREVENTING U.S. FORCES FROM TRANSPORTING HAZMAT OVER EUROPEAN HIGHWAYS
- CONDUCT USAREUR AND GERMAN FEDERAL MINISTRY OF TRANSPORT JOINT VEHICLE INSPECTION
- WAIVER OF REQUIREMENT FOR ANNUAL B3 VEHICLE CERTIFICATION

## **21ST TAACOM**

### **HAZMAT DRIVER'S LICENSING REQUIREMENTS**

- EFFECTIVE 1 JANUARY 1999, ALL U.S. TRANSPORTERS (MILITARY AND CIVILIAN) OF HAZMAT IN EUROPE ARE REQUIRED TO BE LICENSED LAW ACCORD EUROPEEN RELATIF AU TRANSPORT DES MATERIES DANGEREUSES PAR ROUTE (ADR)
- TO MEET THIS REQUIREMENT, USARERUR WILL:
  - MAXIMIZE USE OF HAZMAT 11 COURSE, VILSECK, GERMANY
  - MAXIMIZE USE OF MACOM DRIVER'S ACADEMIES
  - EMPLOY MOBILE TRAINING TEAMS

## **21ST TAACOM**

### **HAZMAT UNIT SAFETY ADVISORS**

- EFFECTIVE 1 JANUARY 2000, ALL U.S. FORCES, DETACHMENT SIZE AND LARGER, ARE REQUIRED TO HAVE AT LEAST ONE UNIT SAFETY ADVISOR TRAINED AND CERTIFIED IAW ADR
- UNIT SAFETY ADVISOR IS RESPONSIBLE AND PERSONALLY LIABLE FOR TRANSPORTATION OF HAZMAT
- USAREUR IS DEVELOPING ALTERNATIVE COURSES OF ACTION FOR THE TRAINING AND CERTIFICATION OF UNIT SAFETY ADVISORS

## **21ST TAACOM**

### **JOINT VEHICLE INSPECTION**

- SEPTEMBER 1998 - USAREUR AND GERMAN FEDERAL MINISTRY OF TRANSPORT CONDUCTED A JOINT VEHICLE INSPECTION

- PRELIMINARY RESULTS:

- MECHANISM TO LIMIT VEHICLE TOP SPEED
- TANKERS REQUIRE SWITCH TO DISCONNECT VEHICLE BATTERY
- VEHICLES REQUIRED TO HAVE NON-FLAMMABLE TARPS AND CANVASES
- SHIELDING REQUIRED AROUND ALL WIRING
- TANKERS MUST BE DOUBLE WALLLED AND SPECIALLY REINFORCE
- VEHICLES REQUIRED TO HAVE ABS

## **21ST TAACOM**

### **JOINT VEHICLE INSPECTION (CONT'D)**

- USAREUR STILL AWAITING OFFICIAL INSPECTION RESULTS
- USAREUR HAS NOTIFIED TAACOM OF INSPECTION AND PRELIMINARY RESULTS FOR FUTURE VEHICLE MODIFICATION AND PROCUREMENT REQUIREMENTS
- FUTURE ACTIONS DEPENDENT UPON GERMAN MINISTRY OF TRANSPORT RECOMMENDATIONS
- WILL REQUEST WAIVER OF CURRENT DEFICIENCIES; FUTURE PROCUREMENTS MUST MEET ADR STANDARDS

## **21ST TAACOM**

### **HAZMAT WAIVERS**

- DECEMBER 1998 - USAREUR SUBMITTED 18 WAIVER REQUESTS TO ALLOW U.S. FORCES TO CONTINUE TRANSPORTATION OF HAZMAT
- WAIVER REQUESTS VARY FROM OPERATIONAL PROCEDURES TO VEHICLE OWNER IDENTIFICATION ON THE VEHICLE TO VEHICLE ROUTE DETERMINATION
- ALL WAIVERS INITIALLY APPROVED; AWAITING FINAL CONFIRMATION FROM FEDERAL MINISTRY OF TRANSPORT
- TRANSPORT OF HAZMAT CONTINUES UNTIL 30 JUNE 1999 WHEN FINAL CONFIRMATION MUST BE RECEIVED

## **21ST TAACOM**

### **ANNUAL B3 VEHICLE CERTIFICATION**

- ADR REQUIRES ANNUAL MECHANICAL INSPECTION AND CERTIFICATION OF ALL VEHICLES DESIGNATED TO TRANSPORT HAZMAT
- USAREUR IS REQUESTING WAIVER OF THIS REQUIREMENT
- USAREUR IS DEVELOPING A PROGRAM TO INSPECT AND CERTIFY THESE VEHICLES IN THE EVENT OF WAIVER DENIAL

## **21ST TAACOM**

### **CONCLUSIONS**

- GOAL IS TO CONTINUE TO WORK ON ADR COMPLIANCE
- SHORT TERM SOLUTION - WAIVE THOSE REQUIREMENTS WHICH ARE NOT IMMEDIATELY ATTAINABLE
- LONG TERM SOLUTION - MODIFY FLEET TO COMPLY WITH ADR STANDARDS

**21ST TAACOM**

***FUTURE TACTICAL WHEELED  
VEHICLES***

# **21ST TAACOM**

## **AGENDA**

- MISSION REQUIREMENTS
- FUNCTIONAL REQUIREMENTS
- ORGANIZATIONAL STRUCTURES
- INDUSTRY SUPPORT
-

**21ST TAACOM**

**MISSION REQUIREMENTS**

AIR DEPLOYABLE

LONGER  
DISTANCES  
SUPERHIGHWAYS  
TO  
MUDDY FIELDS

TACTICAL  
WHEELED  
VEHICLES

MISSION  
REQUIREMENTS

SUPPLIER  
TO SOLDIER  
CONTAINER  
HANDLING

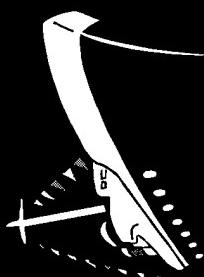
**INTEGRAL LOADING AND UNLOADING**

# **21ST TAACOM**

## **FUNCTIONAL REQUIREMENTS**

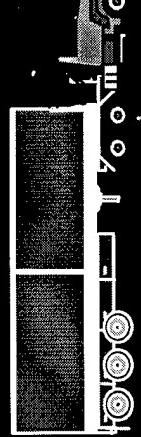
**MEETS  
WORLD WIDE  
REGULATIONS**

**IN TRANSIT  
VISIBILITY**



**INCREASED  
VELOCITY**

**CREW  
PROTECTION**



**DECREASED SUPPORT COSTS**



**MODULAR**



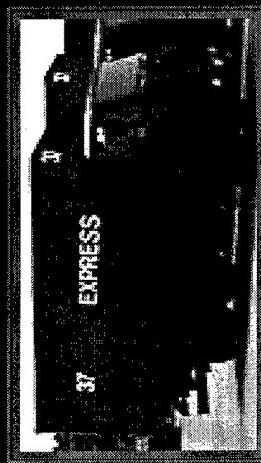
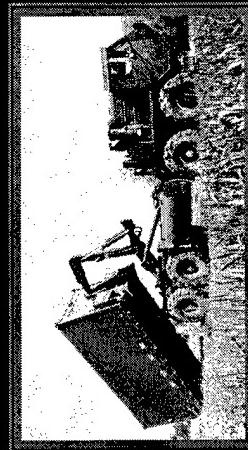
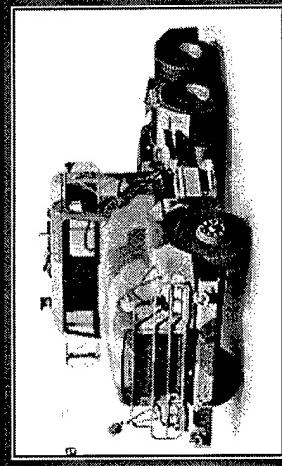
**INCREASED OPTempo**

**MATERIEL INVENTORY IN TRANSIT TO NEED**

# 21ST TAACOM

## ORGANIZATIONAL STRUCTURES

- MODULAR
- VARIETY OF CAPABILITY
- FLEXIBLE
- EXPRESS SERVICE
- MULTI-CAPABLE DRIVERS
- SIMPLIFIED LOGISTICS

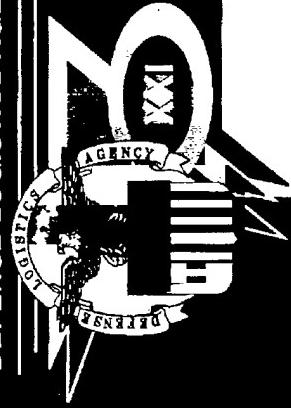


## **21ST TAACOM**

### **INDUSTRY SUPPORT**

- USE PROVEN TECHNOLOGY
- CASH IN ON COMMERCIAL DEVELOPMENTS
- LESS FUNDING FOR LOGISTICS
- VEHICLES MUST PASS WORLD WIDE REQUIREMENTS
- FEWER TRANSPORTATION NODES
- INCREASED USE OF CONTAINERS
- NEED MORE INTEGRATED AND INDEPENDENT MHE
- .

**DEFENSE LOGISTICS AGENCY**



## Defense Logistics Agency America's Logistics Combat Support Agency

# WHEELED VEHICLE CONFERENCE

HEALTH OF OUR FORCE AND OUR  
INCONTRACTOR LOGISTICS SUPPORT  
(CLS) INITIATIVES

Brig. Gen. Mary L. Saunders, USAF  
DEFENSE SUPPLY CENTER

COLUMBUS  
2 FEBRUARY 1999



# DLA



- WHO WE ARE

- HOW WE DO BUSINESS

- HOW WE MEASURE HEALTH / SUCCESS

- CLS INITIATIVES

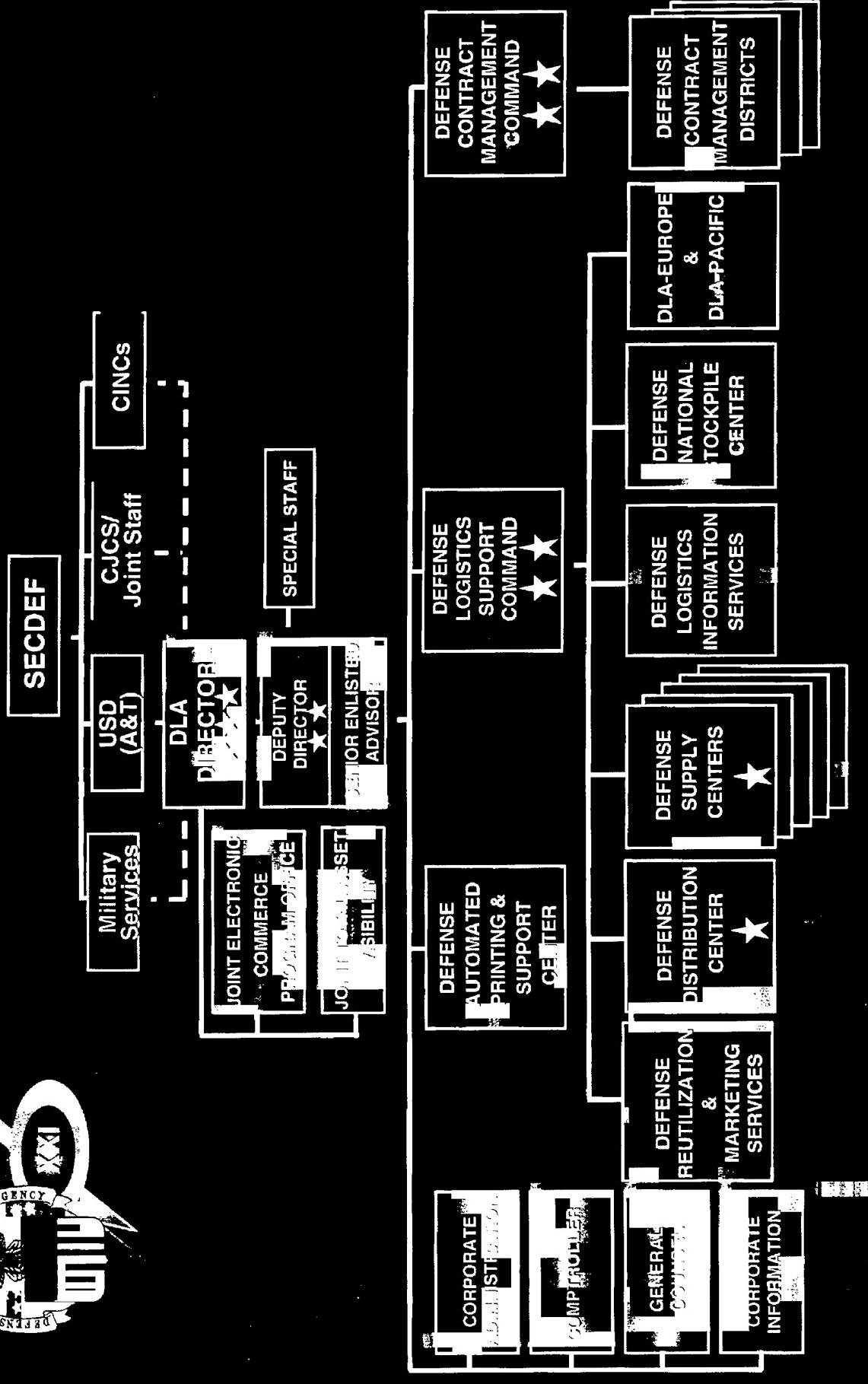
- SUMMARY



**DEFENSE LOGISTICS AGENCY**



# Where We Fit

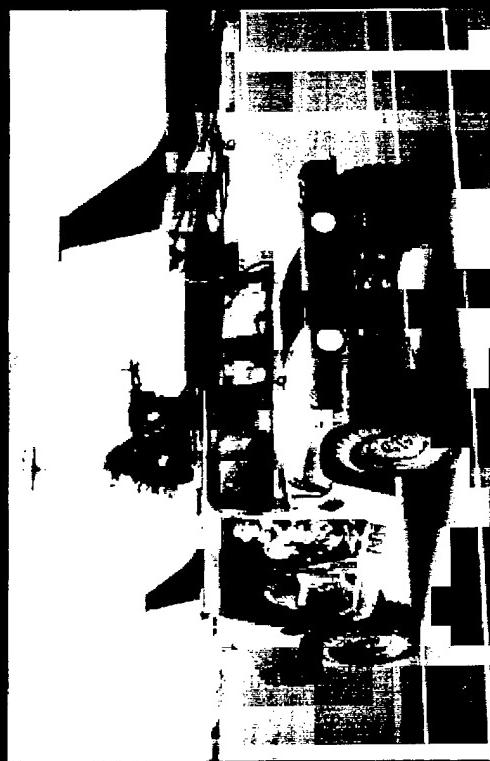




# DLA

## OUR MISSION...

To provide acquisition and  
logistics support to America's Armed Forces  
in peace and war-around the clock, around the world.



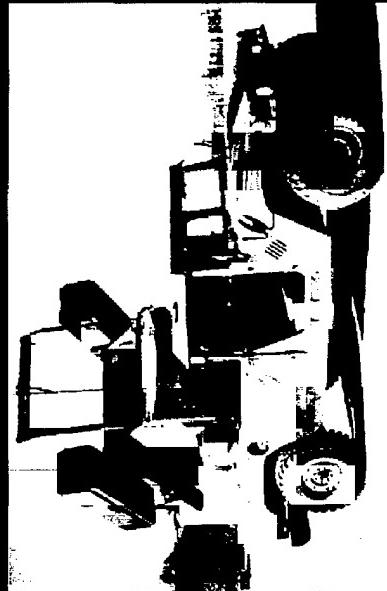
## VISION...

To be America's logistics  
combat support agency...  
the *warfighter's* ...  
for integrated life cycle  
solutions through teamwork  
and ...



# OUR STRATEGIC GOALS

1. Consistently provide *responsive*, best value supplies and services to our customers.
2. Serve as a catalyst for the Revolution in Business Affairs and Acquisition Reform.
3. Ensure our workforce is enabled to deliver and sustain *world class* performance.
4. Rapidly *xploit technology* to provide agile, responsive, interoperable solutions.
5. Aggressively pursue partnerships with industry and our suppliers.



**"We must have a logistics system which tailors what we provide to our customers - not what is convenient for us - and does so in dramatically reduced time frames, reliably and consistently."**



# Preparing for the Future What Does the DLA Strategic Plan Do?

- Right Focus

- On Warfighter Readiness & Capability
- Ties DoD Goals and Direction to the Workplace

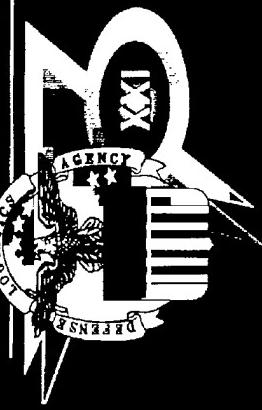
- Right Size

- Major Infrastructure Changes

- Right Enablers

- Business Process Change
- Smaller, Multi-skilled Workforce
- Acquisition Reform
- Partnerships with Customers and Industry
- Information Technology
- Linked to POM

# Defense Logistics Support Command

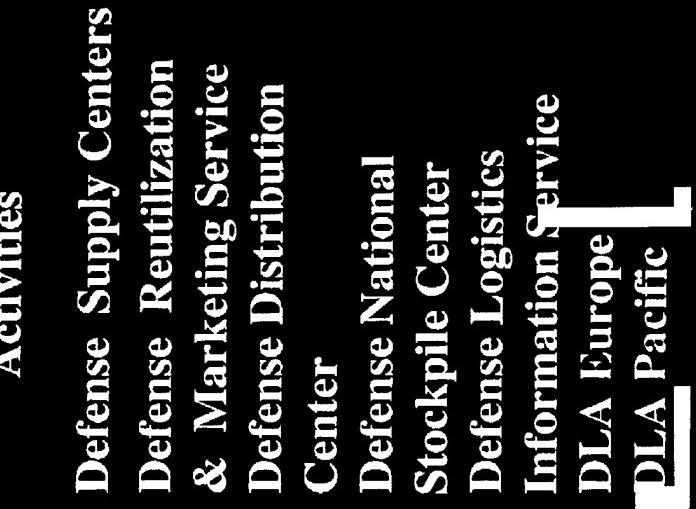


## 1394 Weapon Systems Supported

- \$11.6B Inventory
- \$12B Annual Sales
- \$25M Annual Reutilization/  
Disposals
- \$27M Receipts and Issues  
annually
- All DOD Wholesale  
Inventories

### Functions:

- Supply Management
- Procurement
- Distribution
- Logistics Information  
Management Support
- Stockpile Management
- Reutilization Marketing
- Energy Support
- Management





# DLA: An Integral Part of the Warfighting Team

ITEM	TYPE	JOINT PROVIDER	DLA PROVIDER	SUPPORT SERVICES	DISPOSITION
V	Subsistence				100%
V	Clothing				100%
V	Bulk Fuel				100%
V	Pkg POL				100%
V	Ammo				100%
V	Comfort Items				100%
VII	End Items				100%
VIII	Medical Reparables	X			100%
VIII	Non Reparables	X			4%
VIII	Energy	X			96%
VIII	Log Info	X			100%
VIII	Reutilization	X			90%
VIII	Disposal	X			90%

*DEFENSE LOGISTICS AGENCY*



# DLA Where We Are

## Wholesale

Defense Supply Center  
Philadelphia & DISC  
LEAD CENTER  
TROOP & GEN SUPPLY

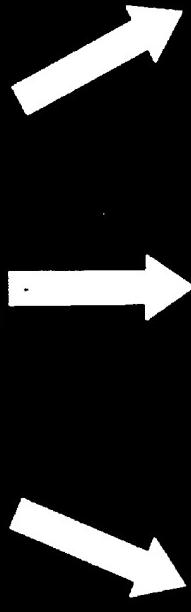
Defense Supply  
Center  
Columbus OH  
LEAD CENTER  
LAND & SEA

Defense Supply Center  
Richmond VA  
LEAD CENTER  
AVIATION

Defense Energy Support  
Center - Ft. Belvoir VA

## Retail

1995  
12 Customer Assistance Reps

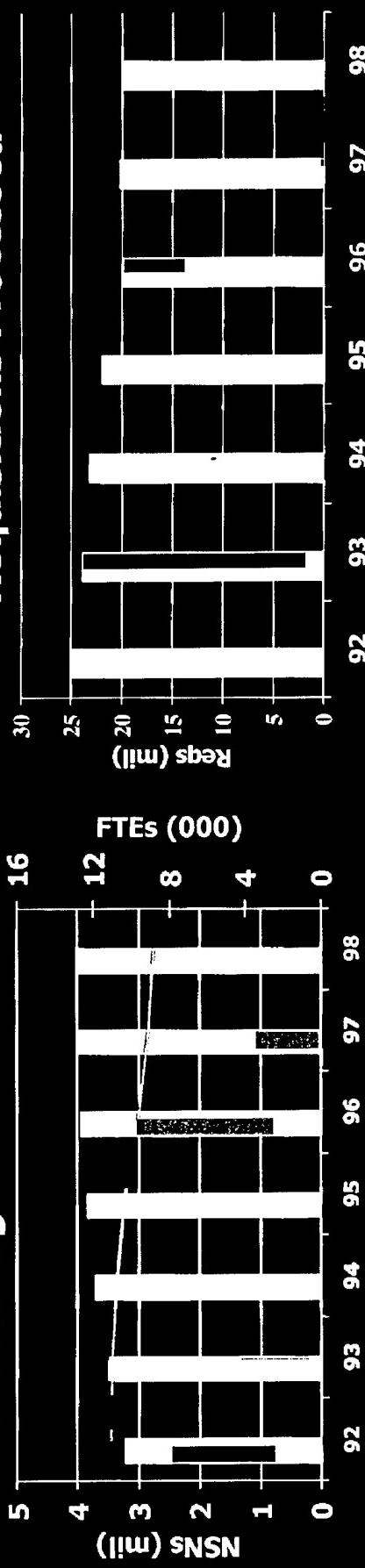


1999  
71 Customer Support Reps  
CONUS/OCONUS  
At Major Activities

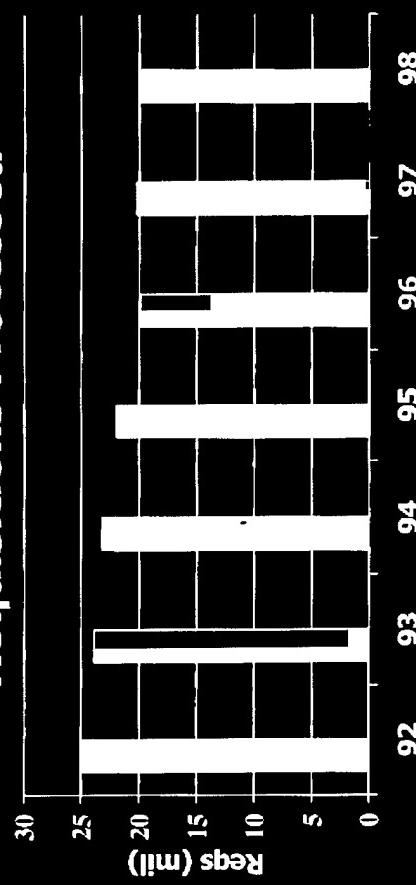


# Volume - - ICP Workload (Non - Energy)

NSNs Managed vs DLA FTEs



Requisitions Processed



Gross Sales



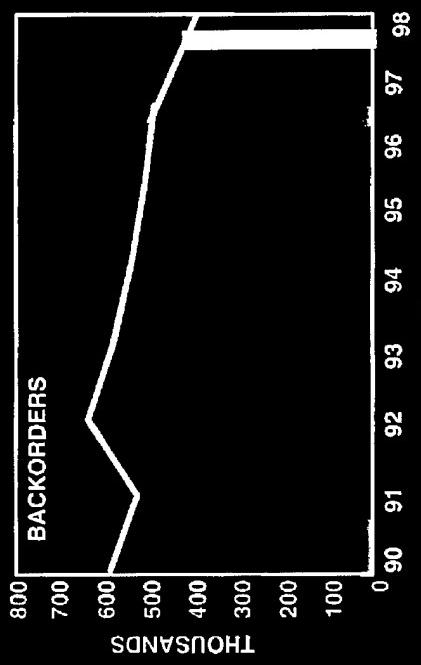
Fortune 500 -  
DLSC Ranks 92d  
\$14.3 Billion

**DEFENSE LOGISTICS AGENCY**



# System Performance

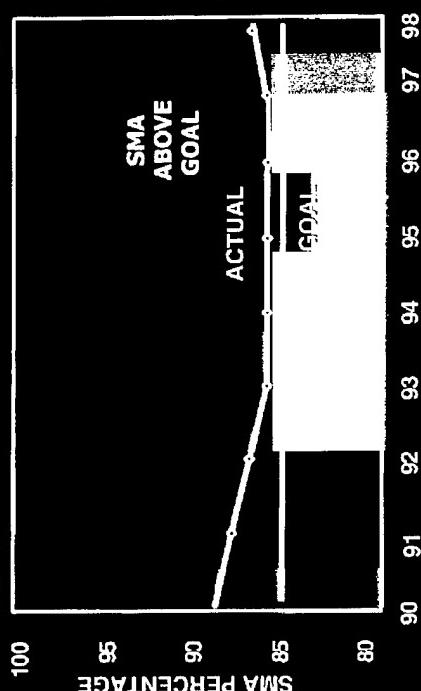
## Backorders



## Line Items

Transferred from  
the Services--  
**1992-1995: 763K**  
**1996-1998 : 152K**  
  
Internal  
Realignment--  
**1996-1999: 650K**

## Supply Materiel Availability (SMA)



SMA  
ABOVE  
GOAL

ACTUAL

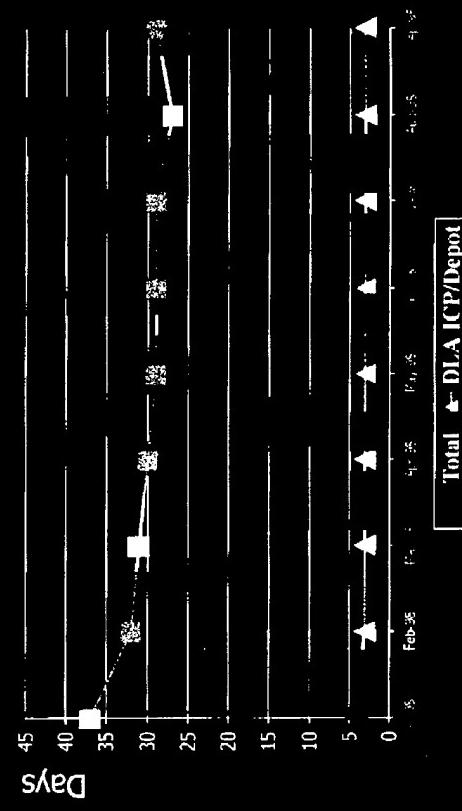
GOAL

## Logistics Response Time



■ Total   ▲ DLA (CP/Depot)

## Logistics Response Time - With (LMARS)



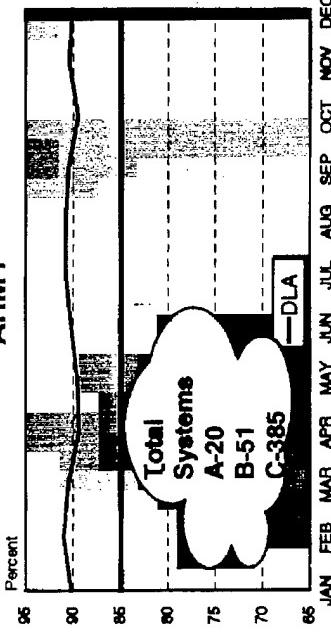
■ Total   ▲ DLA (CP/Depot)



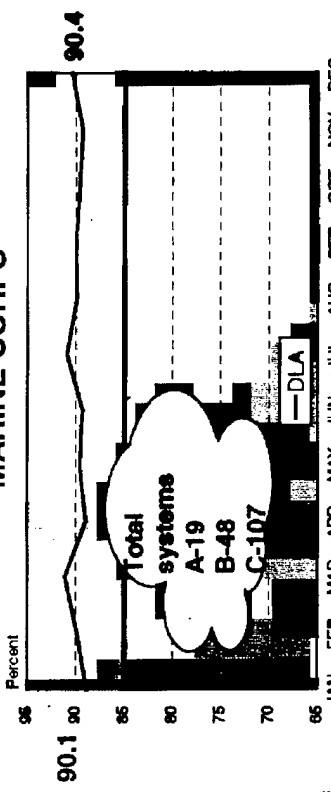
# SUPPLY AVAILABILITY BY SERVICE

**DLA GOAL 85%**

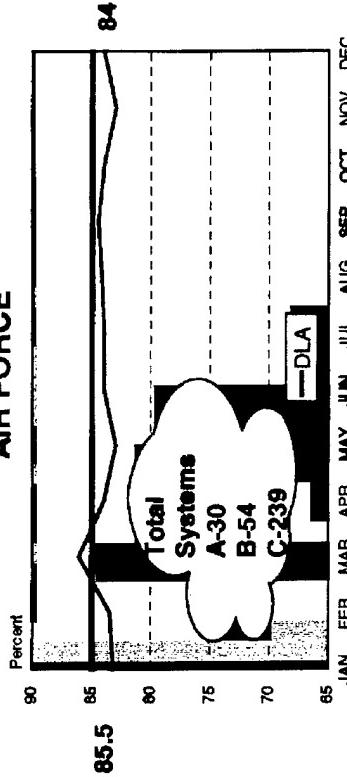
## ARMY



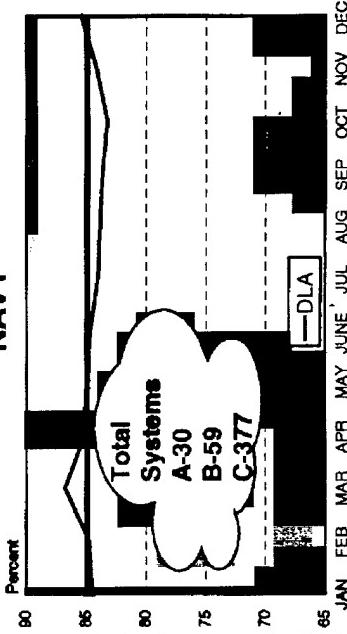
## MARINE CORPS



## AIR FORCE



## NAVY



**Overall Weapon System Supply Availability - 87.5%**



# Weapons Systems Performance Measures:

Weapons Systems Categorized by Criticality  
in Support of National Military Strategy

Services	Total	ARMY	USMC
Level A: Most Critical	98	20	19
Level B: Critical	202	51	48
Level C: Less Critical	<u>1094</u>	<u>385</u>	<u>107</u>
All Levels	1394	456	174

With emphasis on  
readiness drivers for any  
key Weapon System

Below Goal Dec 98

Army	USMC
0	1
0	2
15	5



# Focusing on Weapon System Support

## Tiered Inventory Investment

**TIER 1 MOST ESSENTIAL 87%**

**TIER 2 ESSENTIAL 85%**

**TIER 3 LESS ESSENTIAL 83%**

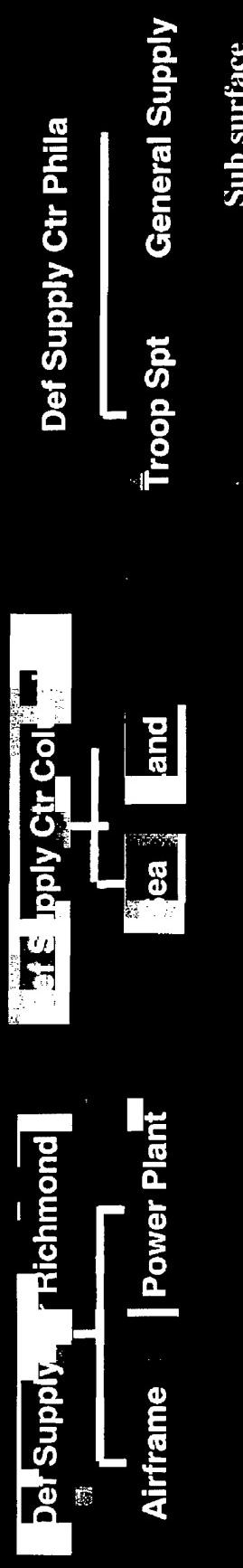
- Business vs Readiness Trade - off
  - Business: Fast - moving, low - cost, low risk items
  - Readiness: Items critical to weapon systems and military operations
- Optimize support within resource constraints
- Weapon system coding essential



# Focusing on Weapons System Support

Lead Center Concept...

- Establishes Centers of Excellence
  - DSCC - Land and Sea*
  - DSCR - Aviation*
  - DISC / DSCP - Troop Support & General Supply*
- Provides Single Wpns System Point of Contact at the Program Level (Weapon System Support Manager)
- Works with Service Pgm Mgrs to Resolve Fleet Wide Readiness / Supply Support Issues for DLA Supported Weapon Systems
- Acts as the Primary Catalyst for Inter - Agency Support



Sub surface

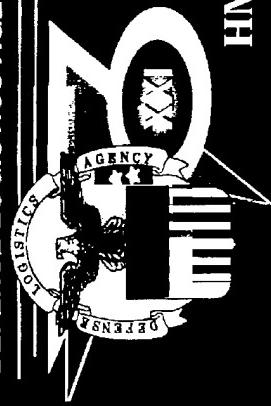
DEFENSE LOGISTICS AGENCY



# TACTICAL WHEELED VEHICLES HEALTH

LEVEL	SYSTEM	C	NSNS	C	DEC	DEC	FMC	DIA	MGD BY	9,347	89	90	88	91	92	94	91	95	98	93	87
A	EMTT								ARMY												
A	HMMWV								ARMY												
A	HMMWV								USMC												
A	LVS								USMC												
A	TRACTOR RT								USMC												
B	Firetruck P19/20/23								AF												
B	PLS								ARMY												
C	HET								ARMY												
C	FMT								ARMY												
C	TRUCK								Series	ARMY											

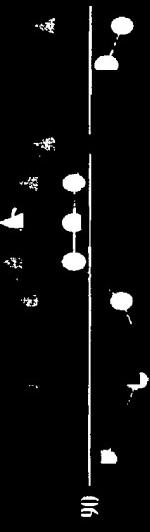
DEFENSE LOGISTICS AGENCY



# READINESS AND SUPPLY AVAILABILITY

HMMWV

100



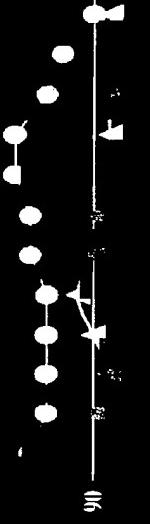
80

70

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

HEMTT

100



80

70

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

READINESS %

S/A

READINESS %

S/A

READINESS %

S/A

HMMWV	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
READINESS	94	94	94	94	94	95	95	94	93	94	94	93
S/A	89	88	87	87	88	91	91	91	90	89	89	88

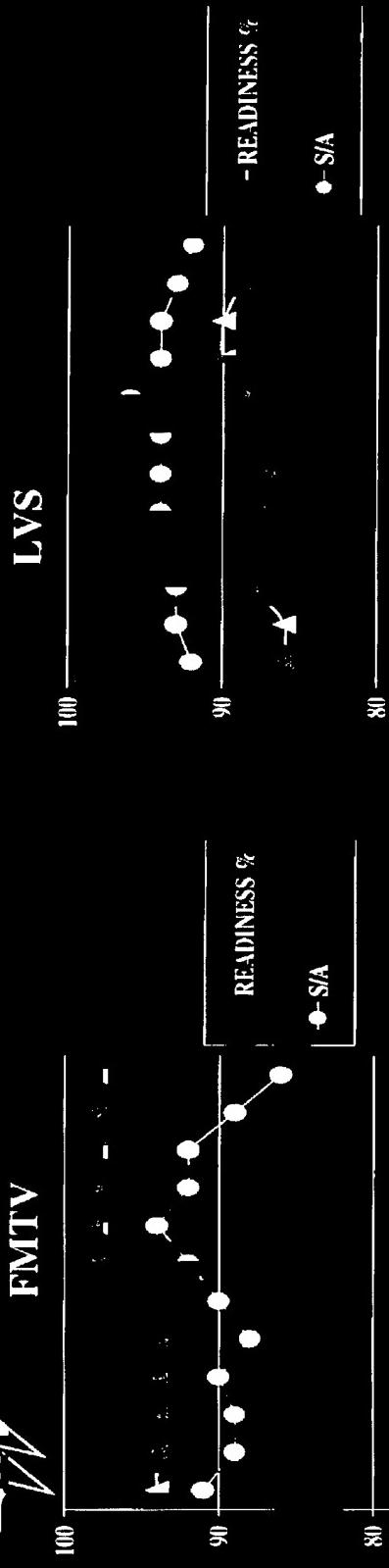
TOTAL NSNS	7,035
ECI NSN	1,802
AVG MO DMDS	82,992

TOTAL NSNS	9,347
ECI NSNS	2,021
AVG MO DMDS	37,003

DEFENSE LOGISTICS AGENCY



# READINESS AND SUPPLY AVAILABILITY



11 JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

FMTV	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
READINESS %	95	97	96	93	91	91	95	97	97	97	97	97
S/A	91	89	89	90	88	90	90	92	94	92	92	89
LVS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
READINESS %	86	86	88	89	88	87	89	89	89	90	90	89
S/A	92	93	93	93	94	94	94	96	96	94	94	93

TOTAL NSSN 7,187  
ECI NSSN 1,640  
AVG MO DMIDS 16,067

TOTAL NSNS 7,391  
ECI NSN 1,515  
AVG MO DMDS 3,280



## Contractor Logistic Support DLA Corporate Strategy

- PARTNER with Service Project and Program Managers
- Obtain best value from existing DoD Inventories
- Leverage Wholesale Contracting Resources
- Tailor CLS to customer, system, commodity, region



# CONTRACTOR LOGISTICS SUPPORT

## POSSIBLE PROS:

- Modernization Through Spares
- Reduced Cycle Times
- Reliability Based Logistics & Trigger Based Item Management
- Single Logistics Face to the Warfighter for the System
- Reduced Government Logistics Footprint
- Cost Savings for the Specific Weapon System's Support

## POSSIBLE CONS:

- May not effectively use existing Service / DLSC investment in inventory / pipeline
- Degrades nationally leveraged buying power for consumables (as well as common reparables) across systems
- May drive up the total cost of logistics support across DoD
  - Unless infrastructure / investment intelligently used
- Multiple Contractors on the Battlefield
  - Poor integration in requesting and receiving support



## WHAT DLA OFFERS

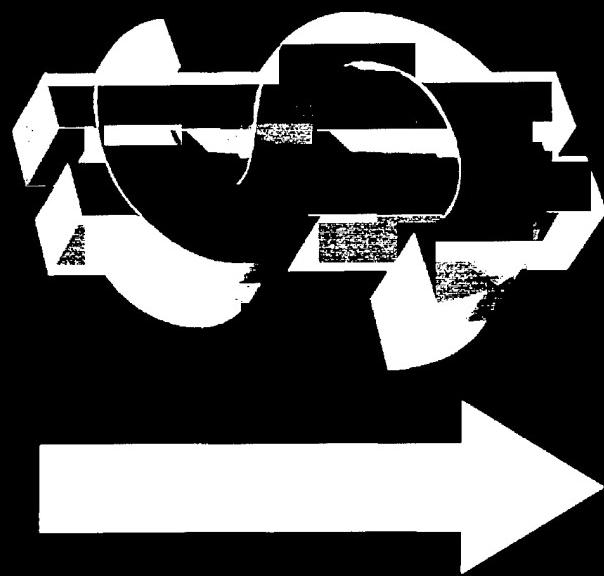
- Over 35 Years Experience in Supply Chain Management for Consumable Materiel Support to the Warfighter
- Nationally Leveraged Buying Power Across Weapons Systems / Military Services
- Inventory of Critical Consumable Parts for Weapon Systems
  - Surge and Sustainment
- Recognized Government Leader in EC / EDI
- Extensive Warehouse / Distribution Network
  - New: Dedicated Truck Service for Time Definite Delivery and Tailored Logistics Support
- Innovative Methods of Support Using Best Commercial Practices



# DLA ELECTRONIC COMMERCE

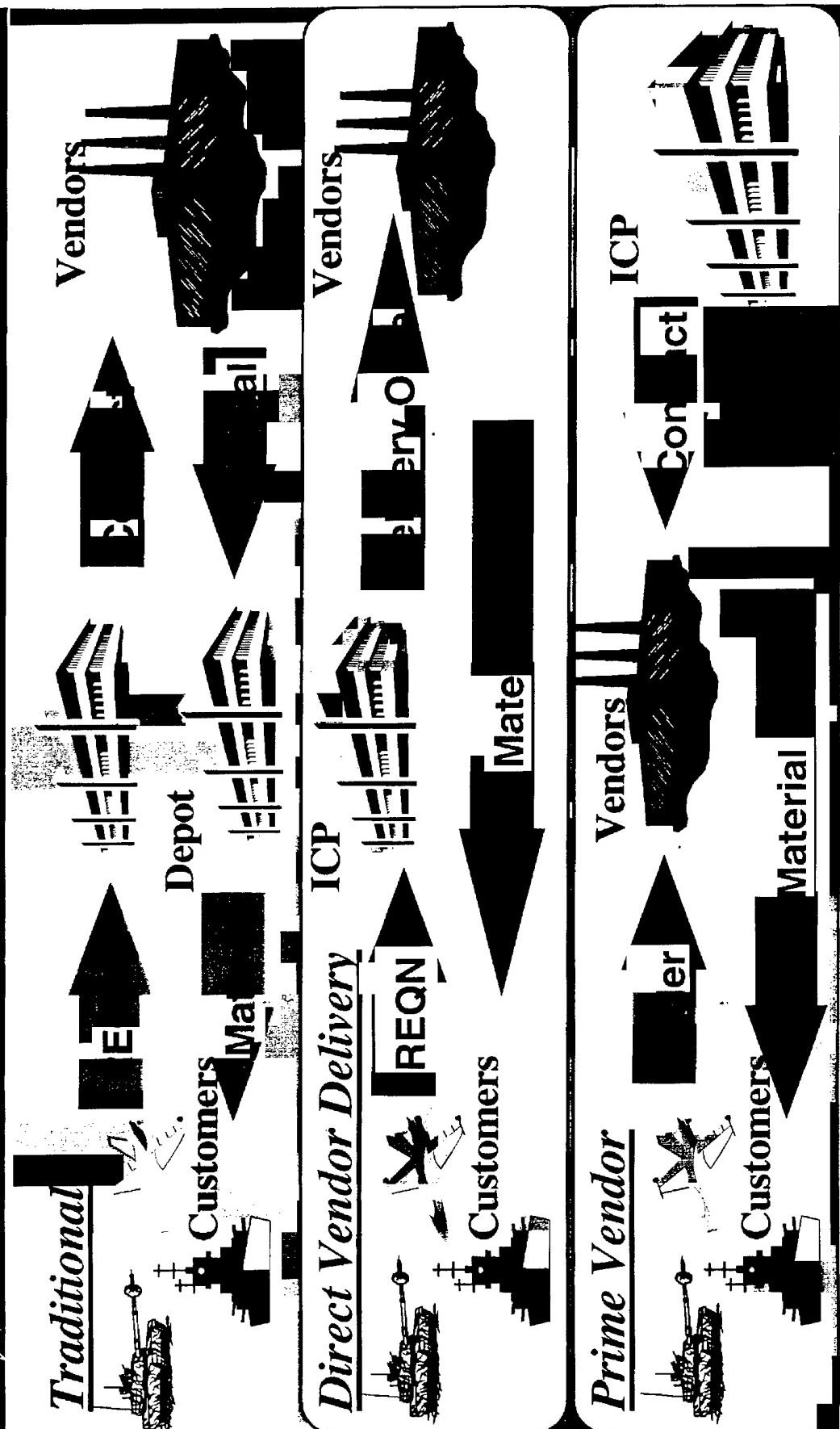
## INITIATIVES

- E Check
- E Commerce
- E Data Interchange
- E Document Access
- E Document Mgmt





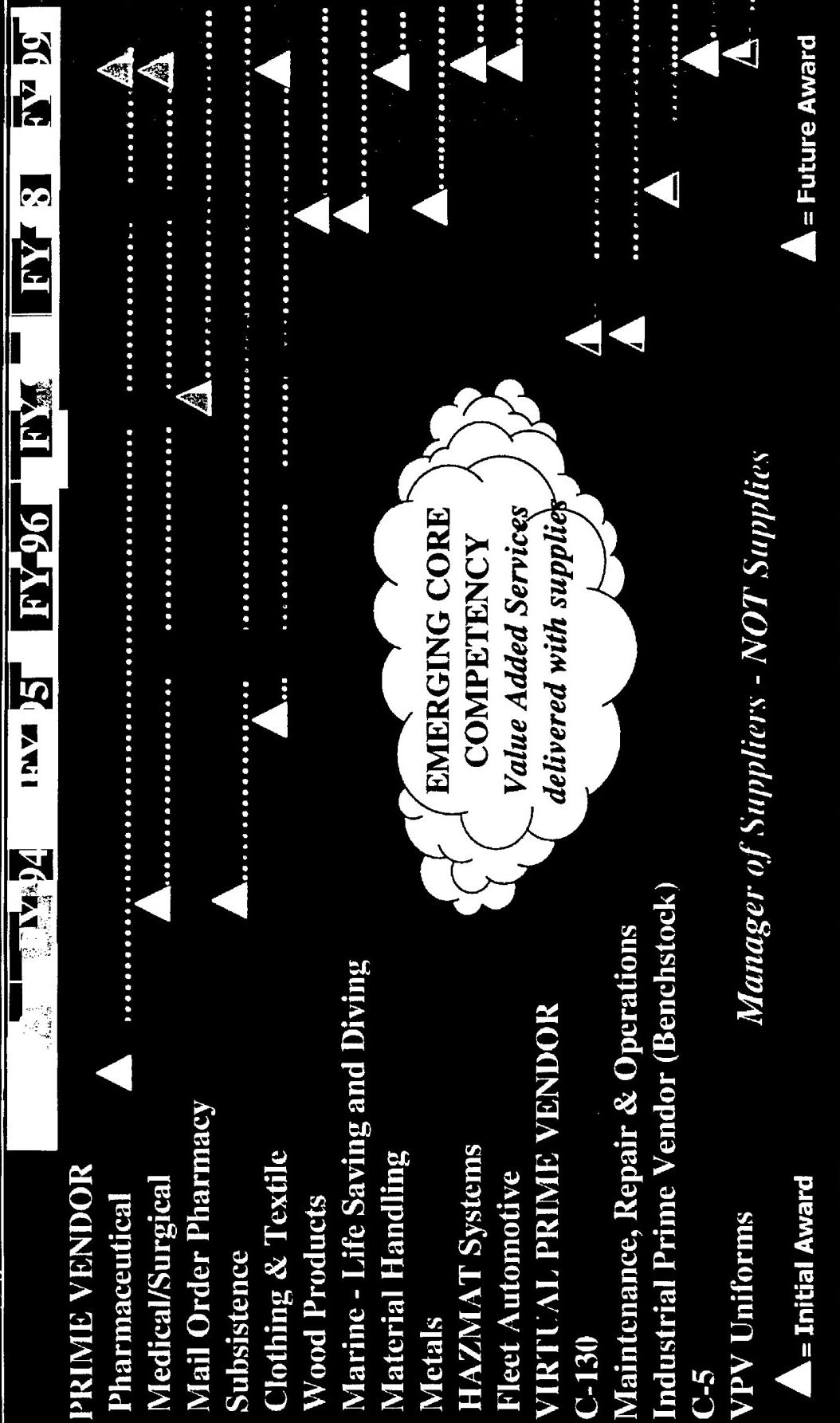
## Direct Vendor Delivery/ Prime Vendor Arrangements



**DEFENSE LOGISTICS AGENCY**



## Shift to Commercial Practices ...Prime Vendor/ Virtual Prime Vendor





# ICP WORKLOAD Contract Actions

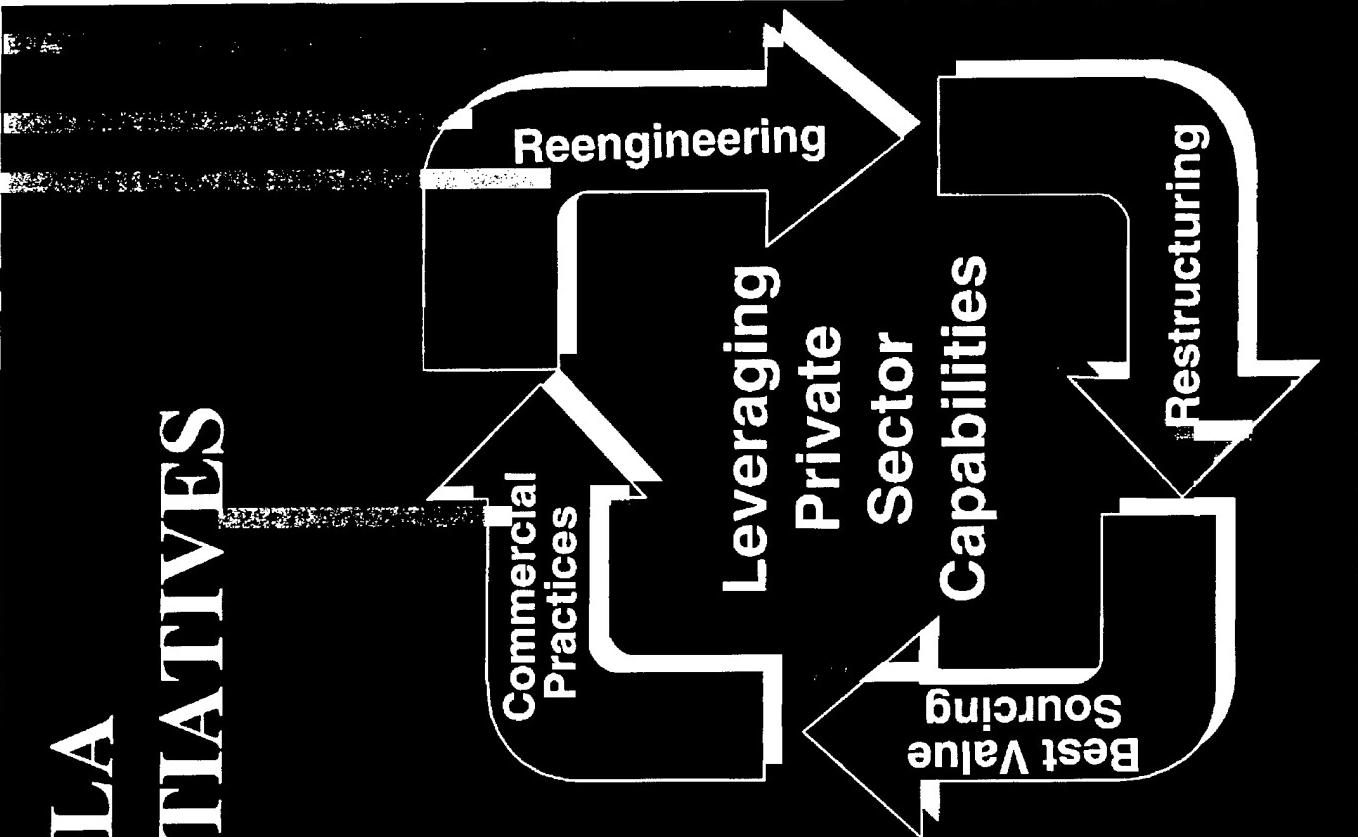
	FY95	FY96	FY97	FY98
<b>Prime Vendor</b>	\$551.8M	\$827.8M	\$1.06B	\$1.3B
<b>Virtual Prime Vendor</b>	0	0	\$7.8M	\$14.4M
<b>Corporate Contracts</b>	\$3.5M	\$28.9M	\$89.3M	\$86.2M
<b>Long Term Contracts</b>	\$2.6B	\$2.1B	\$2.3B	\$3.6B
<b>Total Obligated</b>	\$3.1B	\$3.0B	\$3.3B	\$6.4B



# DLA CLS INITIATIVES

- Prime Vendor
- Virtual Prime Vendor
- Prime Vendor Overseas
- Industrial Prime Vendor
- EMALL
- Re-Refined Oil
- MTVR
- Corporate Contracts

FLEXIBLE  
TAILORED



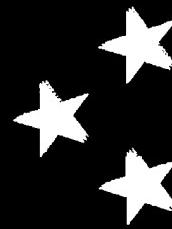
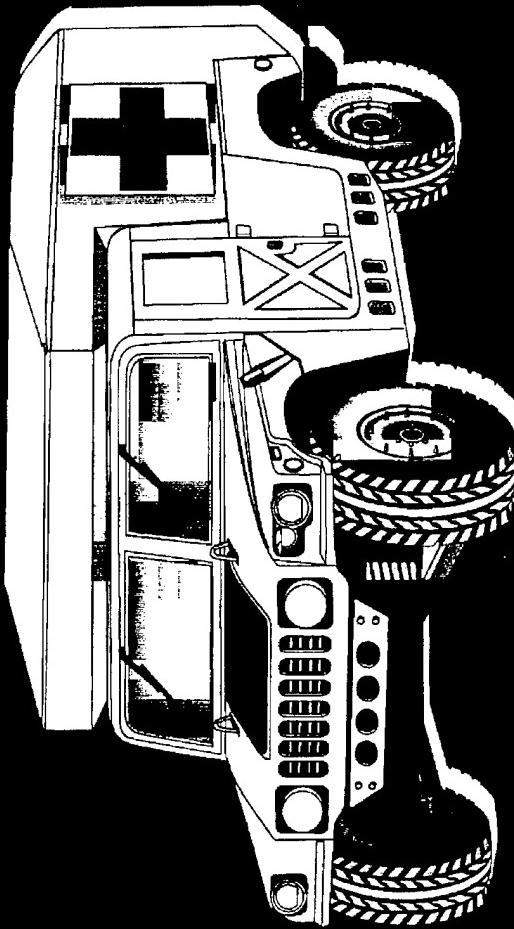


## PRIME VENDOR

**What it is:** One Vendor under long term contract. Provides all materiel in a Product Line or Commodity to a Major Customer. Commercial Materiel using existing distribution systems.

**Examples:** Subsistence and Medical

**Volume:** \$ 1.3 Billion FY98





## VIRTUAL PRIME VENDOR

**What it is:** Regional Focus to provide parts and tech support, inventory mgmt, requisitioning and forecasting for specific weapon system support

**Examples:**

- Fleet Automotive Support Initiatives (FASI)  
Covering AMG (5Tons, HMMWVs)  
Oshkosh (LVS, P19 Firetruck)  
Caterpillar (D7 Dozer, 621B Scraper)
- Award Projected 2Q99 (Camp Pendleton)  
(Camp Lejeune)

**Volume:**

**2, 180 NSNs Annual Dollar \$14.9M**



## PRIME VENDOR OVERSEAS

**What it is:** One Vendor provides centralized support coverage for commercially available parts to support Overseas customers

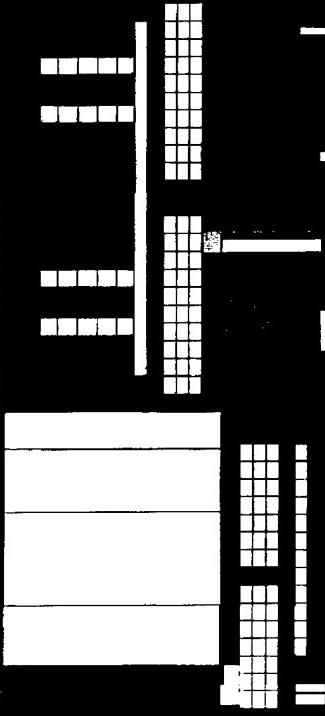
**Examples:** Prime Vendor Overseas supports 800 Contractors Cage Codes for part number and overseas requests submitted via MILSTRIP using Project Code JZC

**Volume:** 1252 NSNs, Price Listing, Estimated Annual Dollar \$5M





## INDUSTRIAL PRIME VENDOR

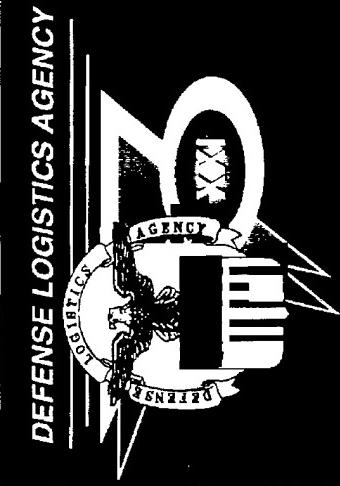


**What it is:** Aligns Prime Vendor Relationship to Industrial Posture.  
Promotes horizontal integration across Weapon Systems.  
Exploits emerging technology across Industry.

**Examples:**

Types of Items targeted: O'Rings, Bolts, Screws,  
Nuts, Fasteners, Seals, Couplings, Rivets. Targeted  
customers include large maintenance operations.

**Volume:** Currently 43,000 NSNs Annual Demand Value \$22 M



**What it is:**

Customer Shopping via Internet to Access Both DoD and Vendor Inventory. Includes robust search engine via Part#, NSN, Manufacturer, Vendor Catalog

**Examples:**

Allows customer shopping and decision point purchasing via DoD Standard Requisitioning or IMPAC Credit Card

**Volume:**

Currently 2 million items, 9 Vendors

*DEFENSE LOGISTICS AGENCY*



## RE - REFINED OIL



What it is: Closed Loop Delivery of new and pick up of old  
10W30/15W40 Oil

- |          |  |
|----------|--|
| Example: | 7 Day Delivery of bulk and packaged products via<br>Direct Vendor Delivery. Current Customers Ft. Carson<br>Ft. Riley, Ft. Hood. |
| Volume:  | 12 NSNs, 13 Military Bases, 5 Federal Agencies   |



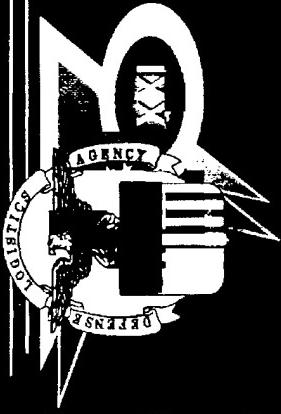
## Medium Tactical Vehicle Replacement



**What it is:** Tailored CLS to support USMC Medium Tactical Vehicle Fleet. Intent to replace with more robust vehicles and lifecycle logistics support.

**Examples:** MTVR is a 5 year logistics support contract designed to decrease order ship time, reduce retail stockage and costs.

**Volume:** Current Coverage for 5,666 vehicles with increase options



# DLA Corporate Contracts

## Highlighting

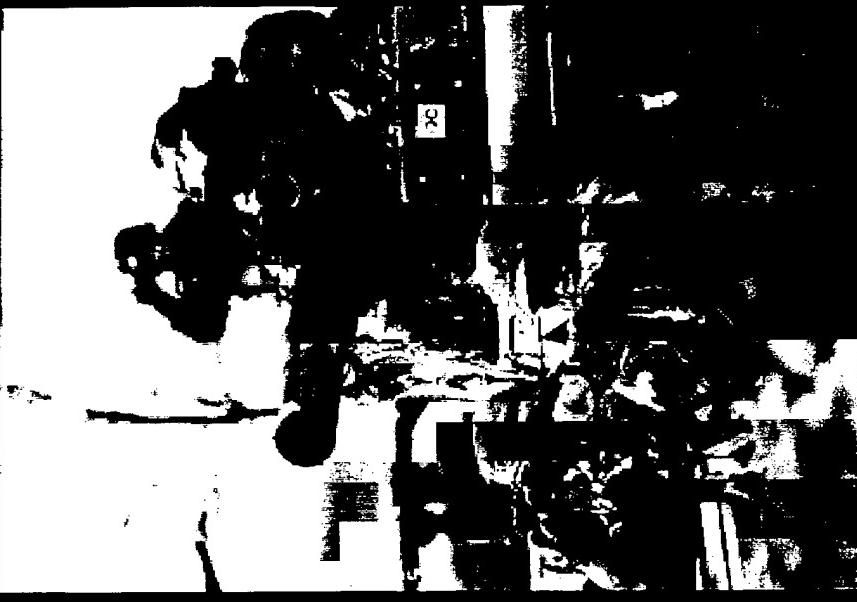
### Tactical Wheeled Vehicles

COMPANY	TOTAL COVERAGE #NSNs/PART#S	\$	DELIVERY		ER
			DVD	21 DAYS	
AMGEN	560/N/A	\$3M	DVD	21 DAYS	5 Year
CUMMINS	529/Price List	5.5M	DVD	7 DAYS	94/2 Year
Stewart & Stevenson	256/N/A	1.2M	DVD 10/30 DAYS	S	98/5 Year
BTMC	167/Price List	1M	DVD 30 DAYS	S	98/5 Year
KOMATSU	418/Price List	2.6M	DVD 5 DAYS	S	97/5 Year
NAPA	0/200K	1.5M	DVD 5 DAYS	S	6/Impac Card
OSHKOSH	1717/N/A	7.4M	DVD 10 DAYS	S	95/5 Year
GROVE N. AMERICA	1443/Price List	\$1M	DVD 10 DAYS	S	98/5 Year



# SUMMARY

## One Team - One Focus



Weapon System Focus

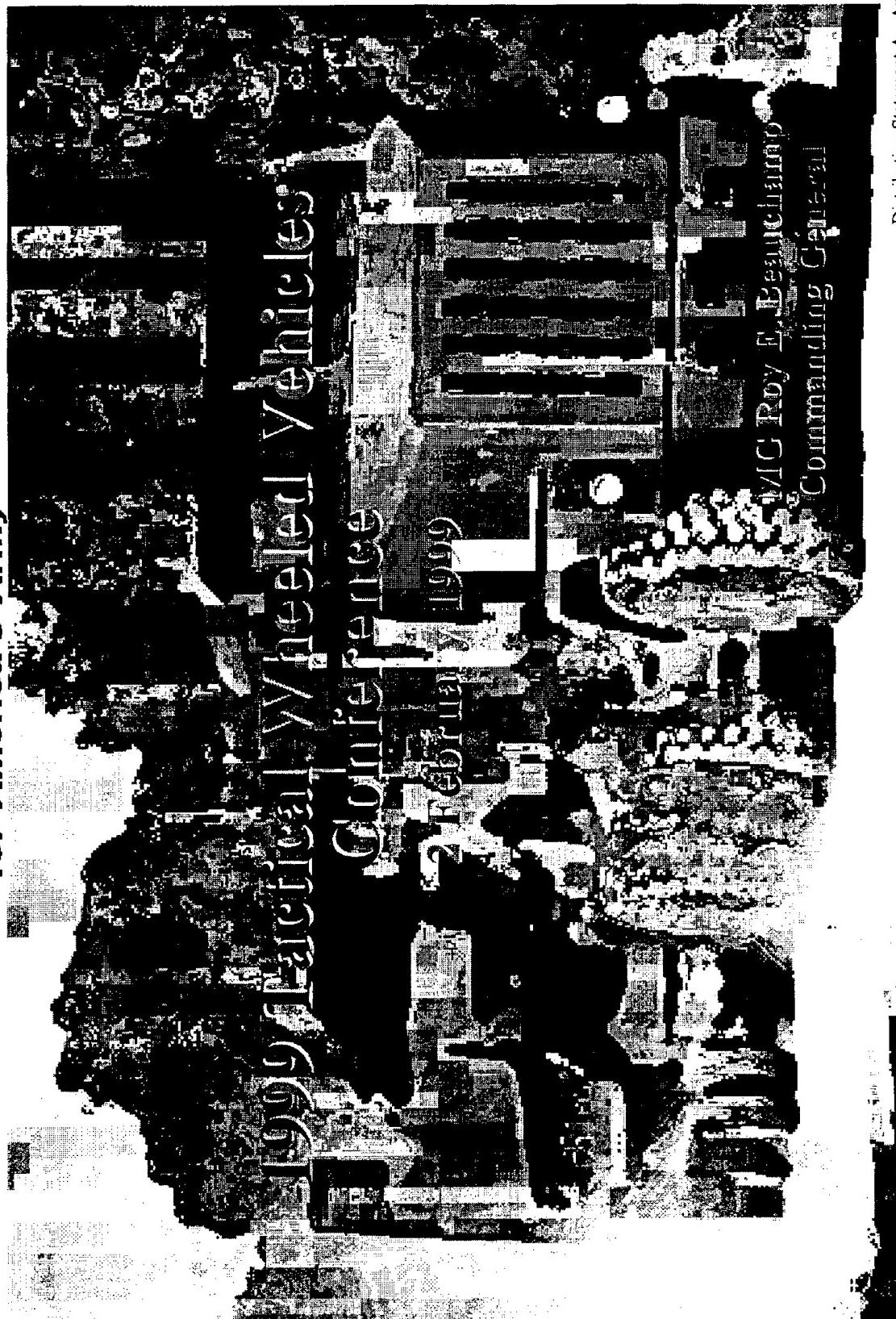
Readiness Driver for DoD

Expectations ↑ Resources ↓

CLS Leader and Partner

# TACOM

*Mobility and Firepower  
for America's Army*



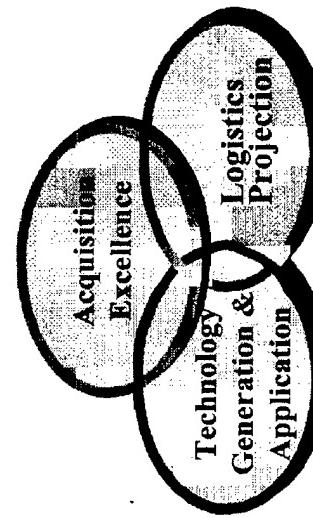
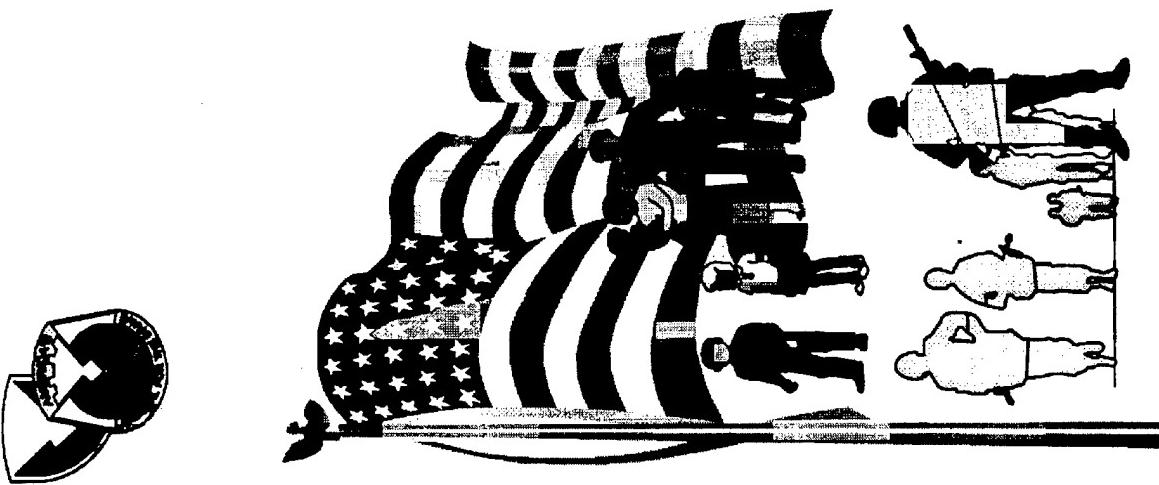
Distribution Statement A - Approved for  
Public Release; Distribution Unlimited

Tank-automotive & Armaments COMmand

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# Briefing Outline

- TACOM
- TACOM and Trucks
- Army Fleet/Distribution
- Procurement
- Research and Development
- Sustainment
- Need Your Help!





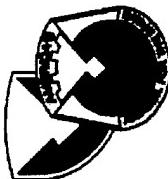
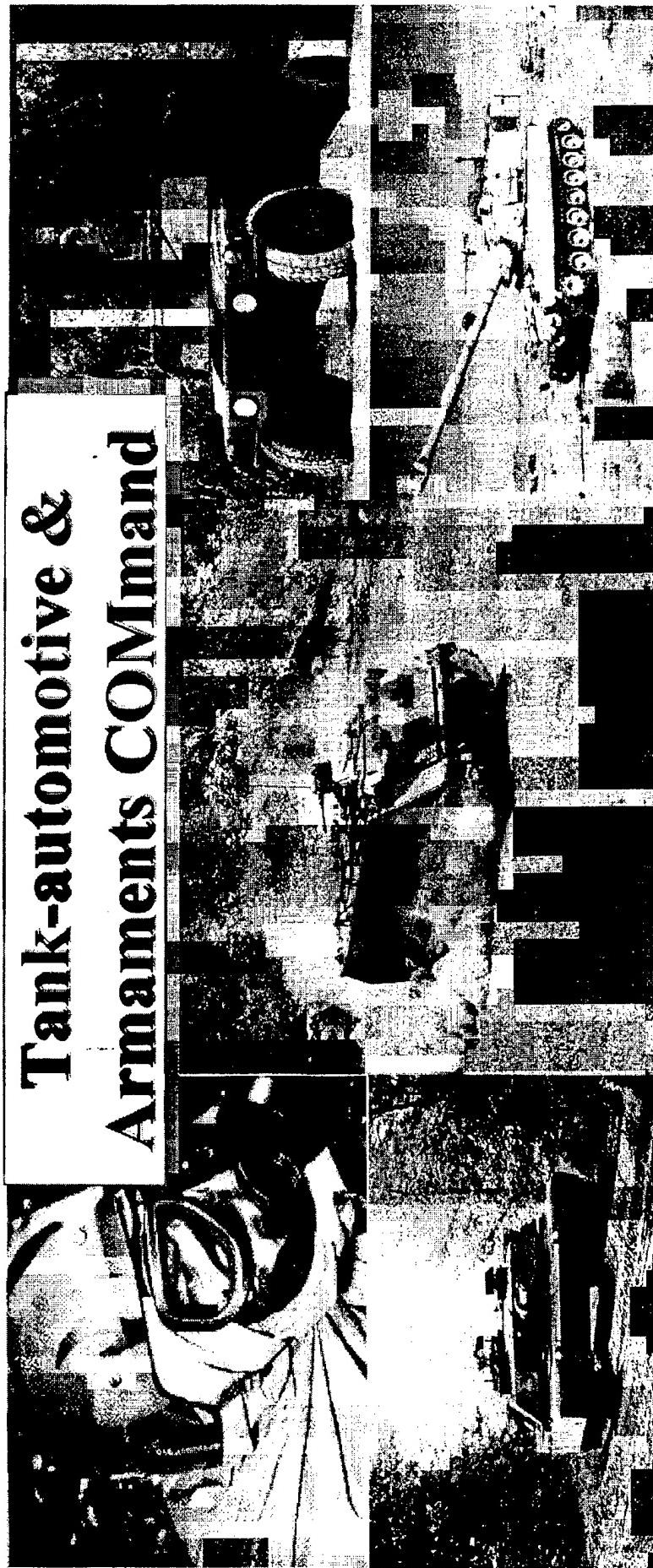
# Our Higher Headquarters

*Department of Defense*

**Department of the Army**

**Army Materiel Command**

**Tank-automotive &  
Armaments COMmand**

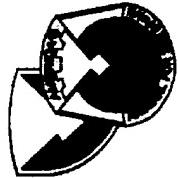


2/2/99

*Committed to Excellence*

3/55

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# A Common Vision

## *Taking America's Army into the 21st Century*

### **Army Vision**

The World's Best Army, a full spectrum force- trained and ready for victory. A Total Force of quality soldiers and civilians:

- A values-based organization
- An integral part of the Joint Team
- Equipped with the most modern weapons and equipment the Country can provide
- Able to respond to our Nation's needs
- Changing to meet challenges of today . . . tomorrow . . . and the 21st Century.

### **ank-automotive & Armaments mand**

- To make the technology and sustainment systems work for soldiers through the seamless integration of S&T, R&D, Acquisition, Log Sustainment and Soldier Readiness.
- To create a business environment at TACOM where every associate understands the requirement to control costs and manage from the customer perspective and understands their inherent responsibility to do so.

### **Army Materiel Command Strategic Vision**

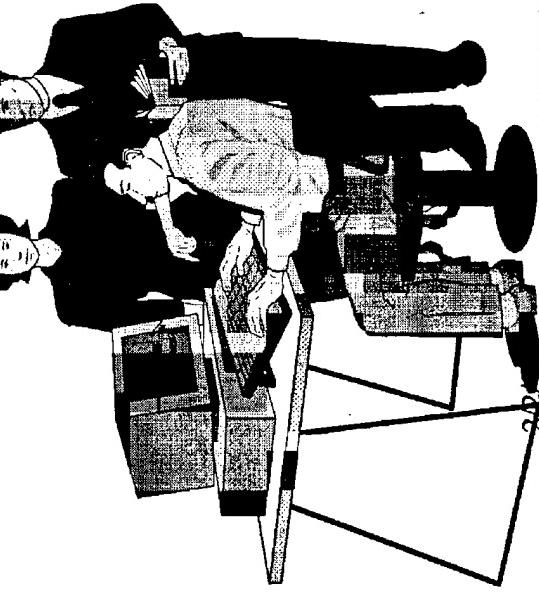
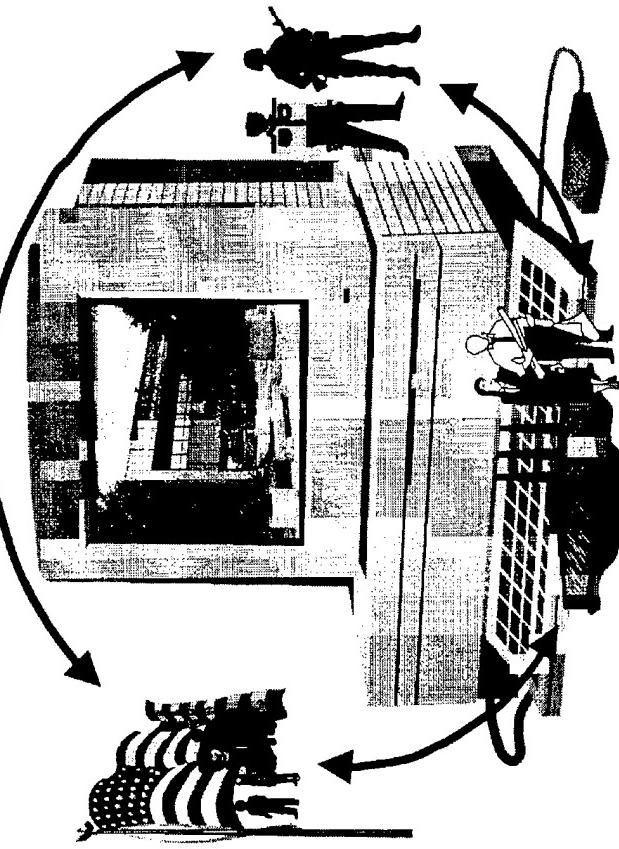
The leader in equipping and sustaining America's Army through superior technology and responsive support assuring worldwide power projection and decisive victory.

*Committed to Excellence*

# Vision For The Future

## Business Environment In TACOM

A fully integrated business environment connected by a fully integrated data environment using commercial business processes to integrate business operations within each organization, across major Commands, across Services, across DOD and across Industry.



A corporate management structure for which the organizing principle is multi-functional work teams to institutionalize the concept of integrated process teams; a highly decentralized structure which uses the integrated data environment to link desk top "servers" to facilitate the transformation of data into actionable information to enable more efficient, fully integrated business operations at reduced cost.

# COMMON GOALS

## Manage From the Customer Perspective...

- Increase Customer Satisfaction

## Reduce the Cost of Doing Business

## Work the Partnerships

COMMITMENT TO OUR

### Customers ...

We Are Your Partners In Readiness

Suppliers .Professional Business  
Relationships-- Mutually Beneficial

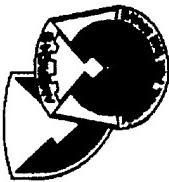
### Associates ...

Challenging, Satisfying  
Work--A Stake In The Corporation

### Stockholders ...

Good Stewardship

*Committed to Excellence*  
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# TACOM MISSION



-To Generate Warfighting Capability for the Army

## FORGE

-To Sustain the Warfighting Readiness of the Army

-To manage the Army's Investment in S&T, R&D and Sustainment for the Army

3,269 Weapon Systems  
32,048 NSNs  
300 Systems in Acq Pipeline

-Serve as the Life Cycle Manager and Integrator for Ground Combat and Support Equipment

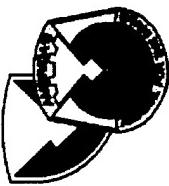
## Tank-automotive & Armaments COMmand

## Research, Develop, Field and Support Mobility and Armament Systems Total Life Cycle

### To Support Army Readiness

Combat Vehicles	Fuel & Water Distillation Eqpt	Mortars	Rail
Tactical Vehicles	Sets, Kits & Outfits	Rifles	Watercraft
Trailers	Shop Equipment	Machine Guns	Petro & Lub Eqpt
Construction Equipment	Chemical Defense Equipment	Ammo	
Materiel Handling Equipment	Howitzers	Aircraft Armaments	
Tactical Bridges	Large Caliber Guns	Demolitions & Explosives	

Committed to Excellence



Tank-automotive & Armaments COMmand

*We Are Your Partners In Readiness*

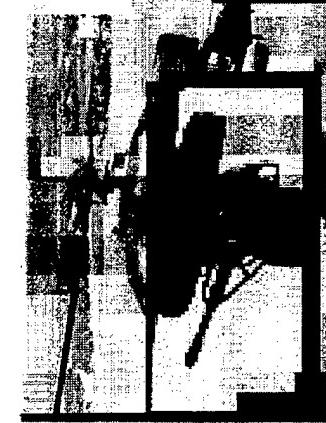
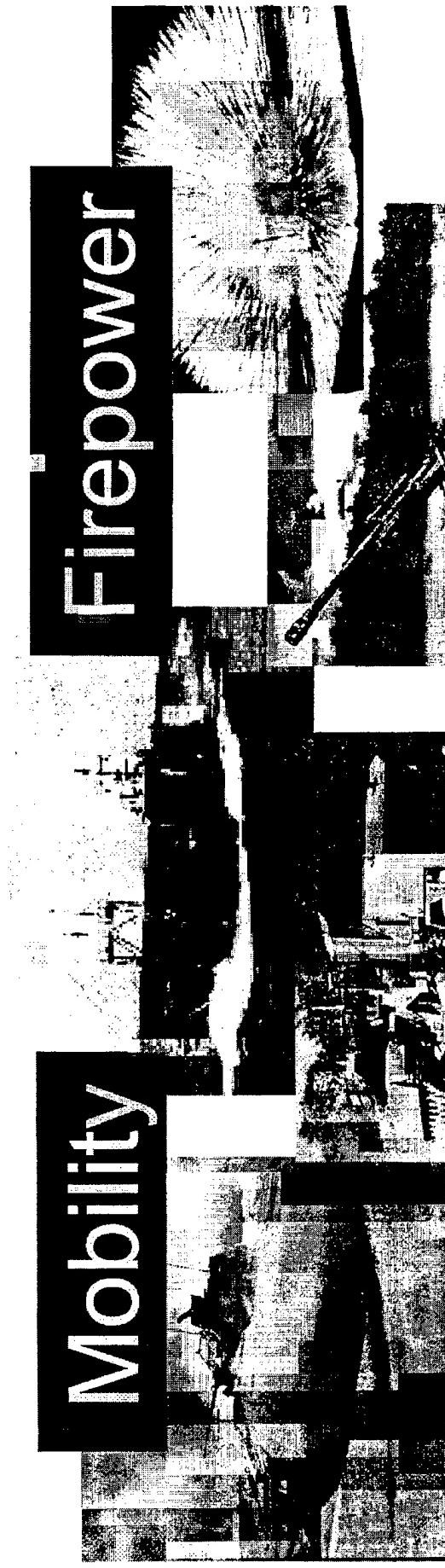
Mobility

Firepower

Systems Integration

Survivability

Lethality



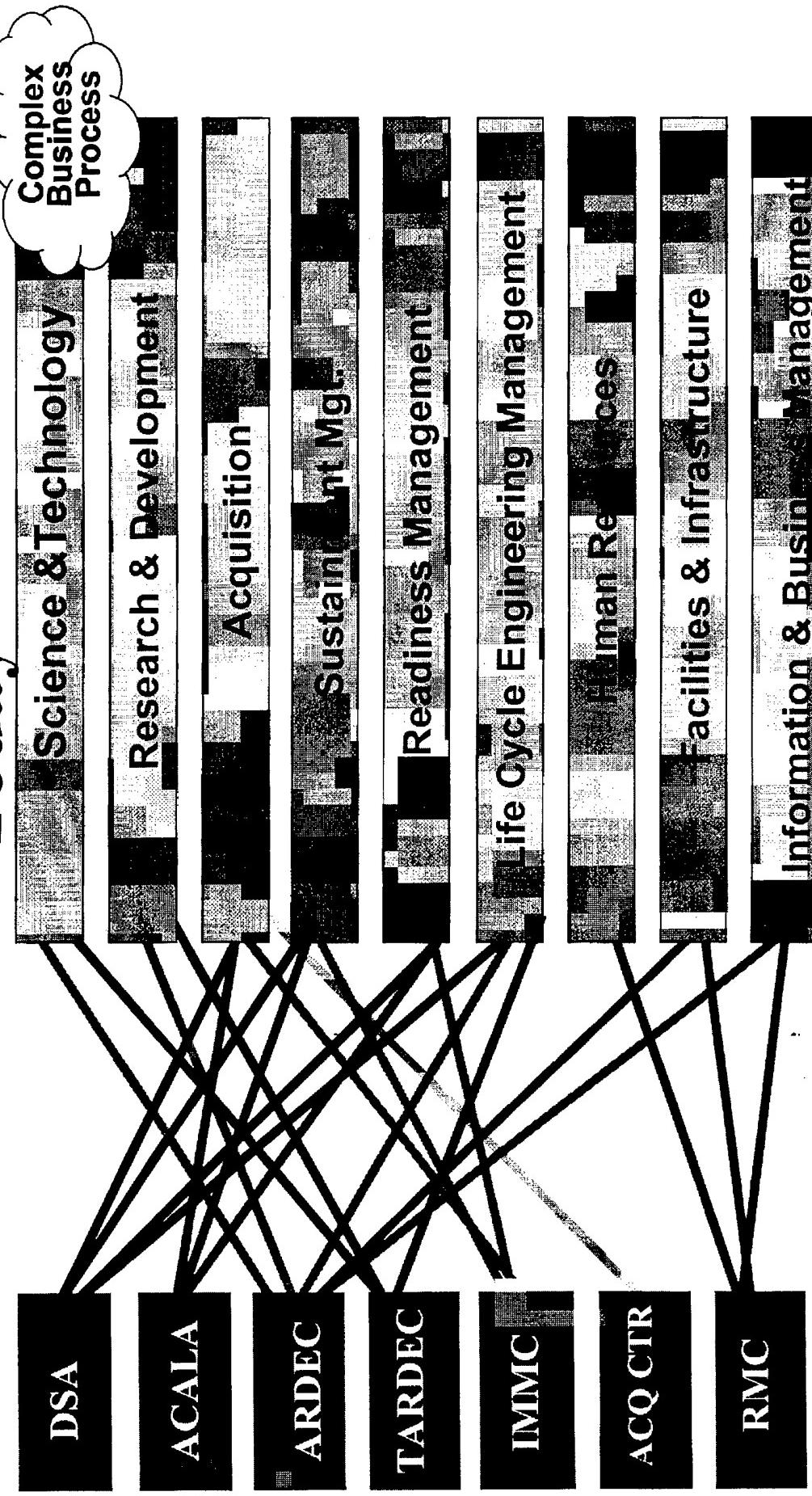
*Committed to Excellence*



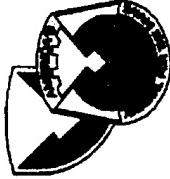


# Current Corporate Process

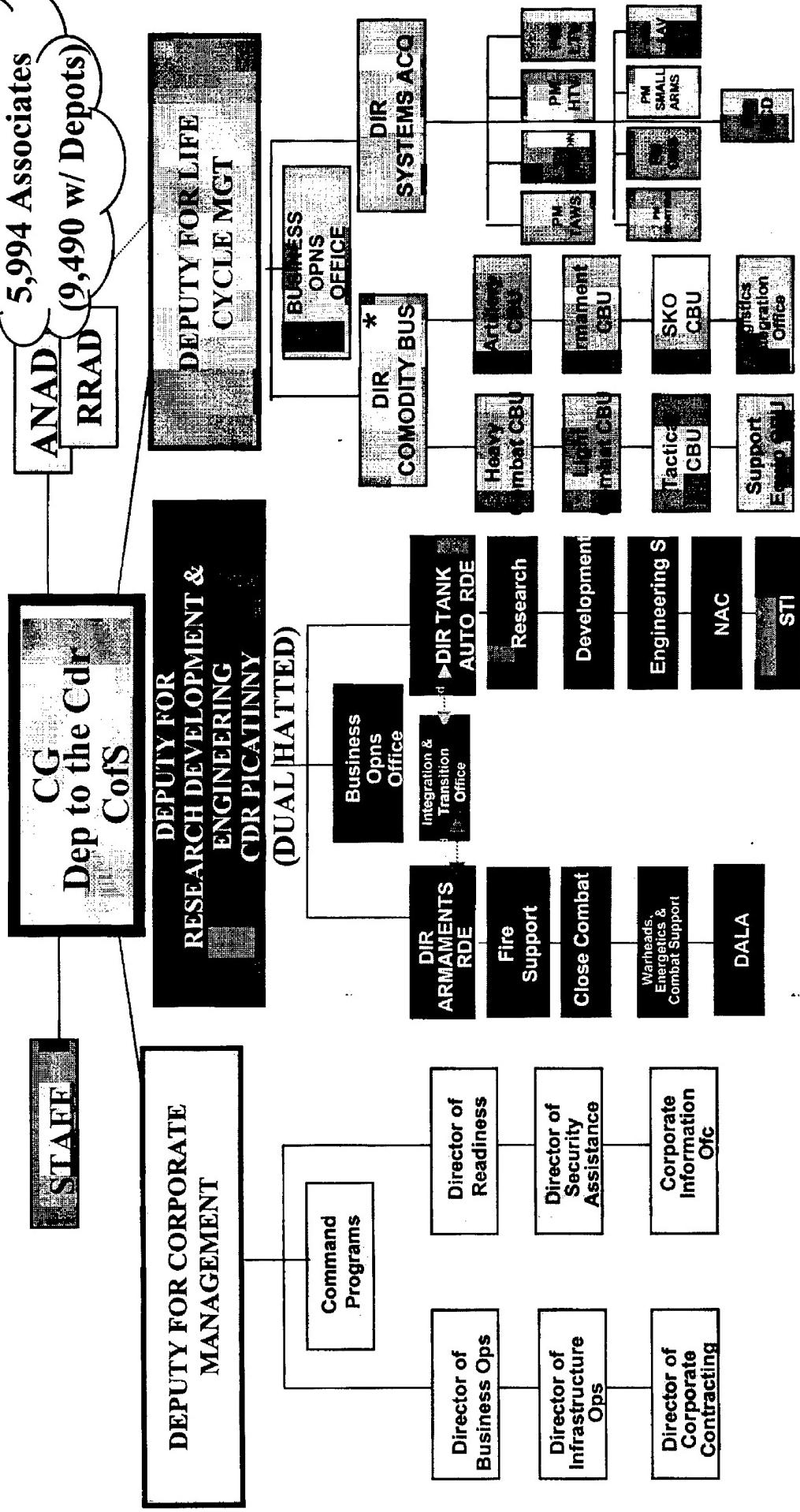
Today



# How we will do it - Structure TACOM of the Future (Concept)



FY 04  
5,994 Associates  
ANAD RRAD (9,490 w/ Depots)



2/2/99

*Committed to Excellence*

\*ACALA Site Mgr.

11/55



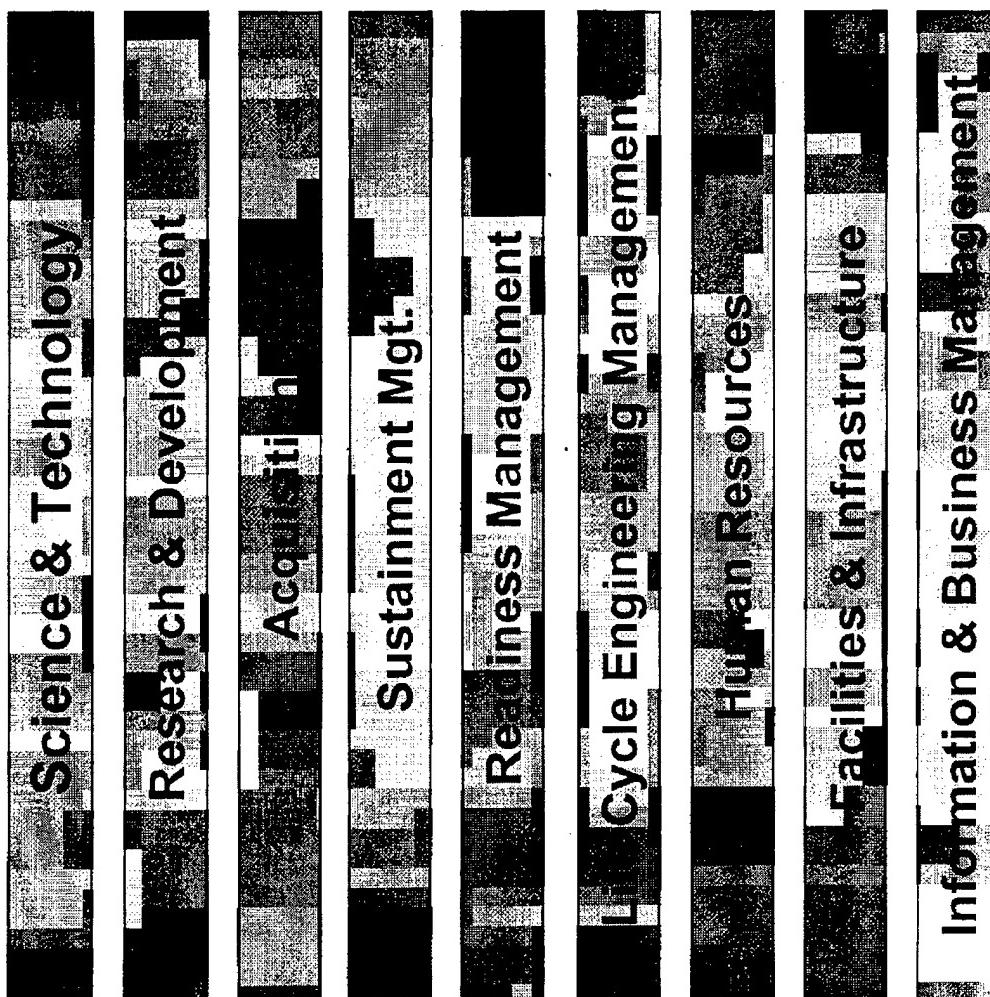
# Integrated Corporate Process

Tomorrow

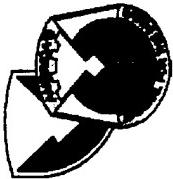
Deputy for  
LCM

Deputy for  
RDE

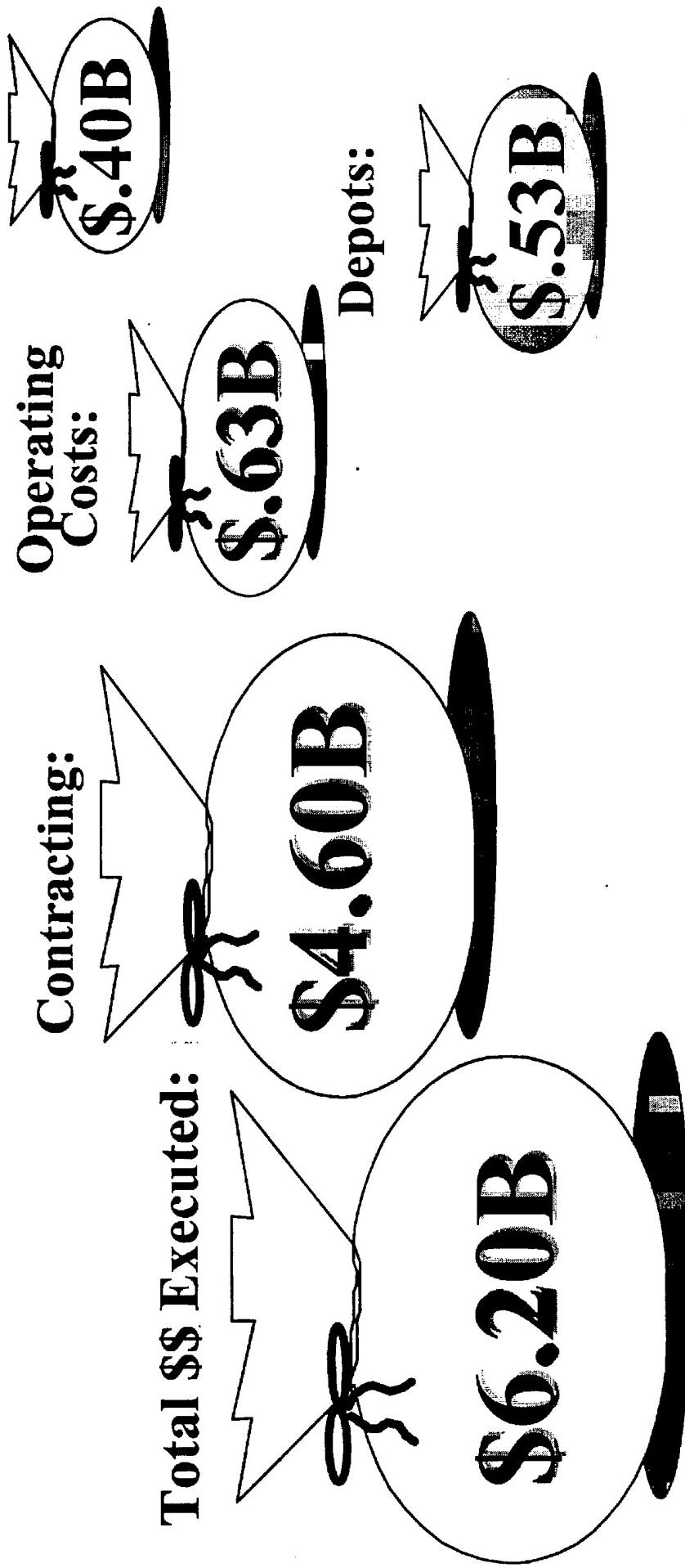
Deputy for  
Corporate  
Mgmt



# Projected FY99 Resources



Credits & Expenses-  
Other Agencies:

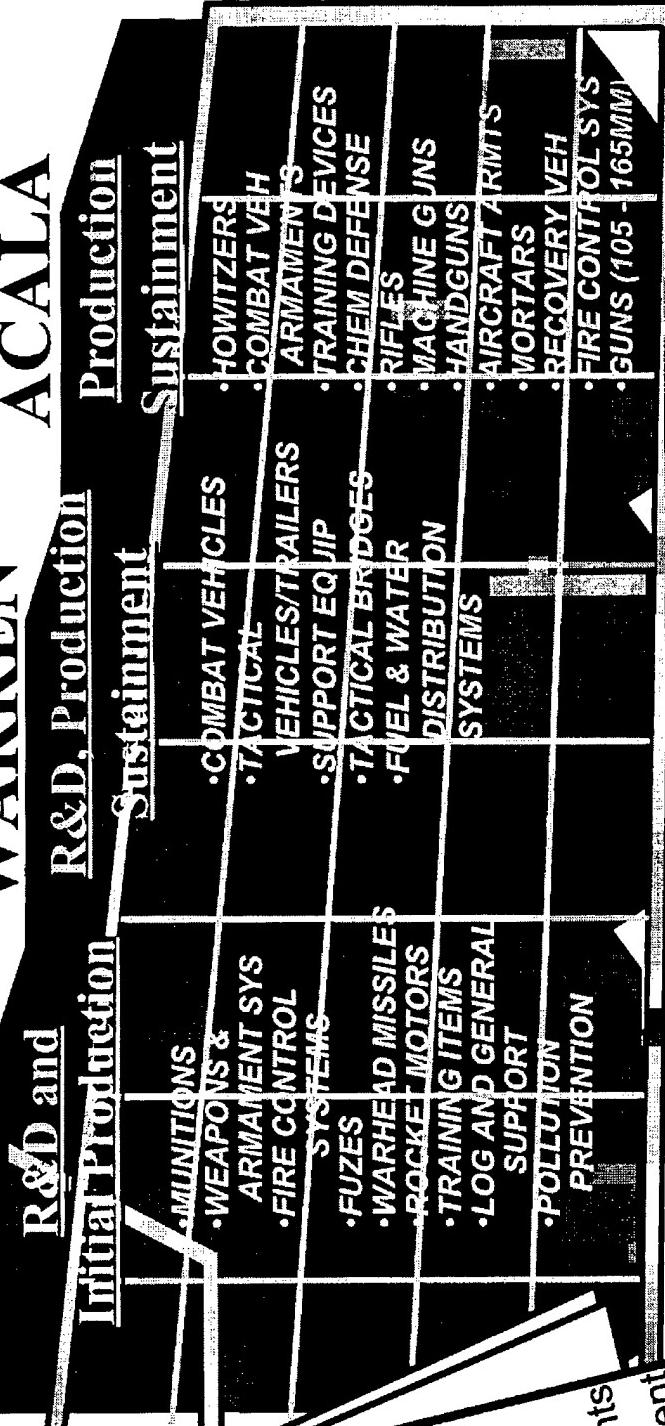


# What TACOM Buys

## ARDEC

### WARREN

### ACALA



Weapons  
Munitions  
Combat Vehicles  
Support Vehicles  
Chemical Defense  
Machine Guns  
Aircraft Armaments  
Aircraft Equipment  
Support Equipment

**\$860 Million**  
**Est. Oblig.**

**\$3.1 Billion**  
**Est. Oblig.**

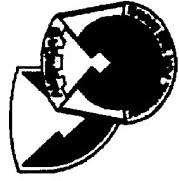
**\$486 Million**  
**Est. Oblig.**

Initial  
Buy

ARDEC  
Buy

ACALA  
Buy

Committed to Excellence



# Weapon System Prime And Major Subcontractors In 24 States

**Over 2,050 Contractors Support Us...**



GENERAL DYNAMICS LAND SYSTEMS HQ (GDLS)\*

DETROIT DIESEL

GIBRALTOR REMINGTON

EATON ROCKWELL

SPLIT BALL BEARING

SACO DEFENSE  
COLTS'

TEXTRON DEFENSE

AM GENERAL\*  
ALLISON TRANSMISSION  
STEWART WARNER  
CUMMINS ENGINE

OSHIKOSH\* TWIN DISC

UDLP\* ALLIANT TECH

DONALDSON

FREIGHTLINER

DEPT of ENERGY

UDLP\* HUGHES AIRCRAFT

HONEYWELL

AEROJET

ALLIED SIGNAL

McDONNELL DOUGLAS

OLIN

UDLP\*

EAST PENN

CHAMBERLAIN

MINE SAFETY

BULOVA

UNITED DEFENSE, LP

(UDLP) HQ\*

UDLP\*

GMMVO

GOODYEAR

DANA SPICER

FNMI

MARTIN MARIETTA

OLIN

TEXTRON CATERPILLAR

TITAN WHEEL UDL\*

SEILER

SYSTEMS & ELECTRONICS INC

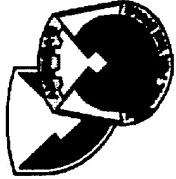
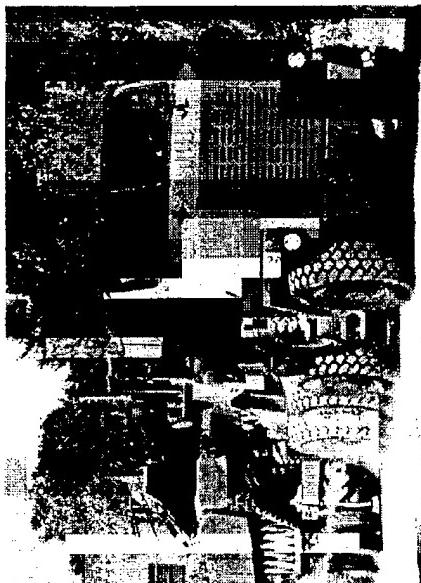
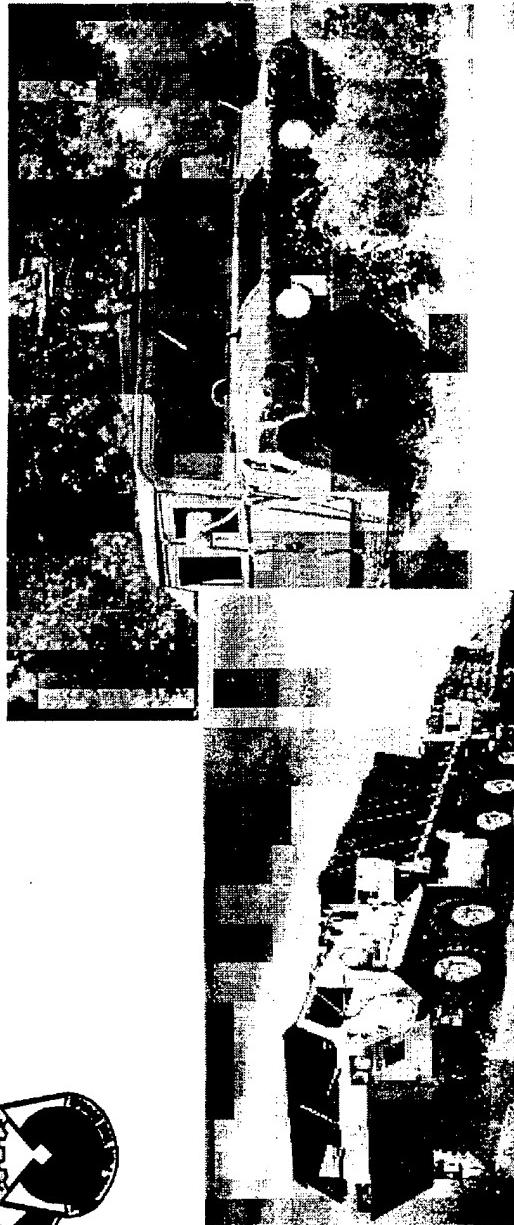
*...located throughout  
the United States!*

*Committed to Excellence*

\* Prime Contractors

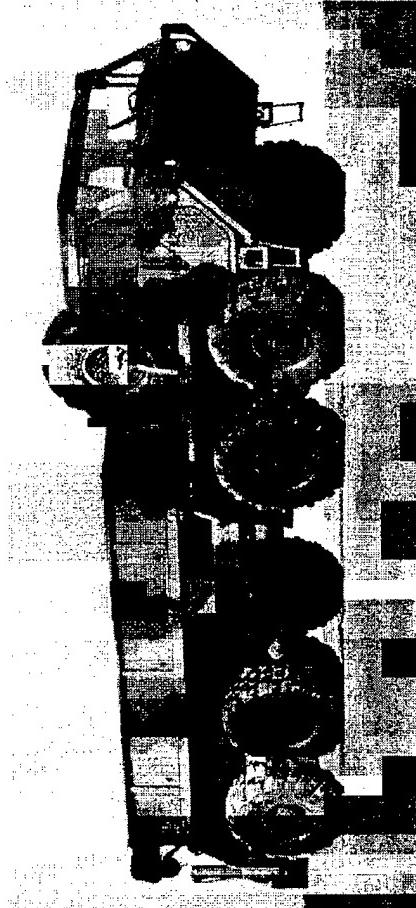
No Contractors located in Alaska and Hawaii

As of Mar 1998/299



# TACOM

## Tactical Wheeled Vehicles

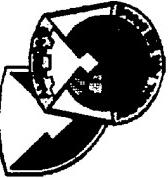


2/2/99

16/55

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253



# Tactical Wheeled Vehicle Fleet



## LIGHT TRUCKS/TRAILERS

DENSITY TRUCKS: 123,996

HISTORICAL OR%: 94%

CURRENT OR%: 92%

AGE RANGE: NEW - 16 YRS

Avg Age: 9 YRS

DENSITY TRAILERS: 21,035

HISTORICAL OR%: 97%

CURRENT OR%: 99%

Avg Age: 20.8 YRS

## MED. TRUCKS/TRAILERS

DENSITY TRUCKS: 96,210

HISTORICAL OR%: 91%

CURRENT OR%: 92%

AGE RANGE: NEW - 27 YRS

Avg Age: 18.7 YRS

DENSITY TRAILERS: 64,113

HISTORICAL OR%: 96%

CURRENT OR%: 94%

Avg Age: 8 - 31 YRS

## HEAVY TRUCKS/TRAILERS

DENSITY TRUCKS: 26,440

HISTORICAL OR%: 92%

CURRENT OR%: 90%

AGE RANGE: NEW - 20 YRS

Avg Age: 10.8 YRS

DENSITY TRAILERS: 25,281

HISTORICAL OR%: 97%

CURRENT OR%: 97%

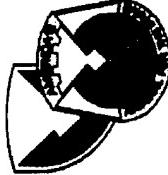
Avg Age: 15.2 YRS

ONLY 9500 TRAILERS ARE REPORTABLE.

DENSITY FLATTRACKS: 10,468  
NOT OR% REPORTABLE.

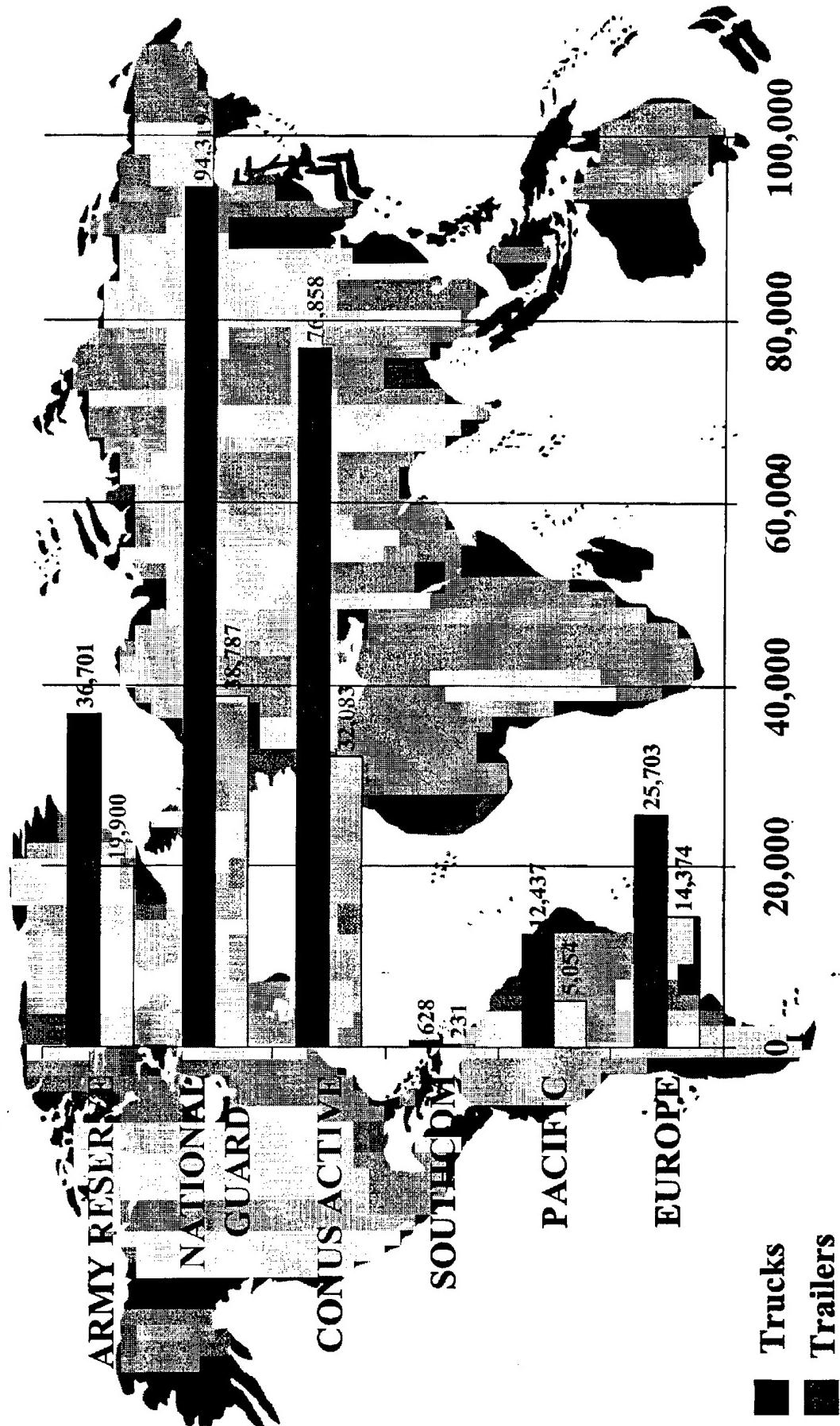
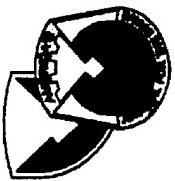
U.S. ARMY

Where The Army's  
Wheeled  
Tactical Vehicle  
Fleet  
Is Located



# Tactical Wheeled Vehicle and Trailer Fleet

## 246,646 Trucks 110,429 Trailers



2/2/99

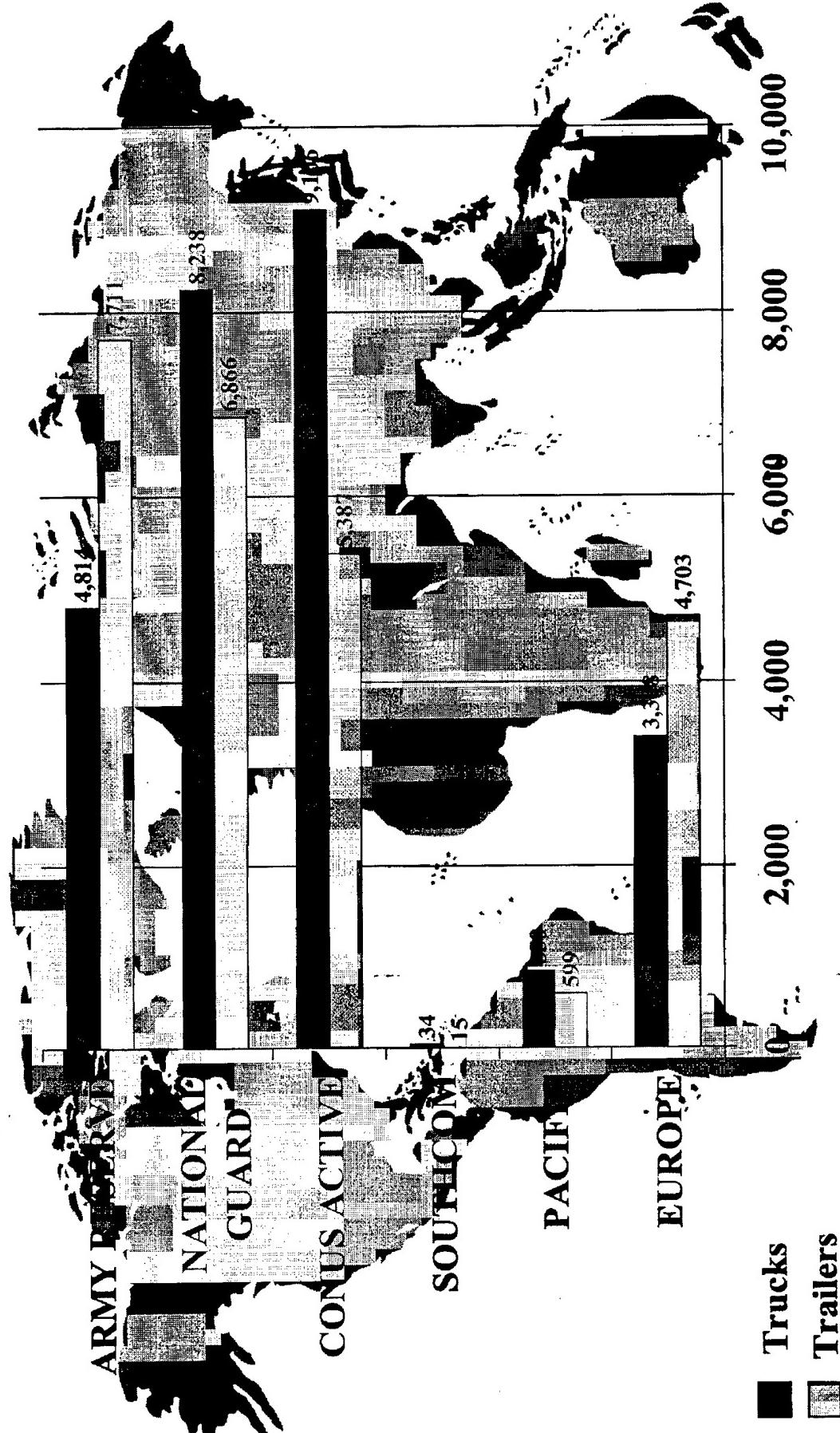
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19/55

256

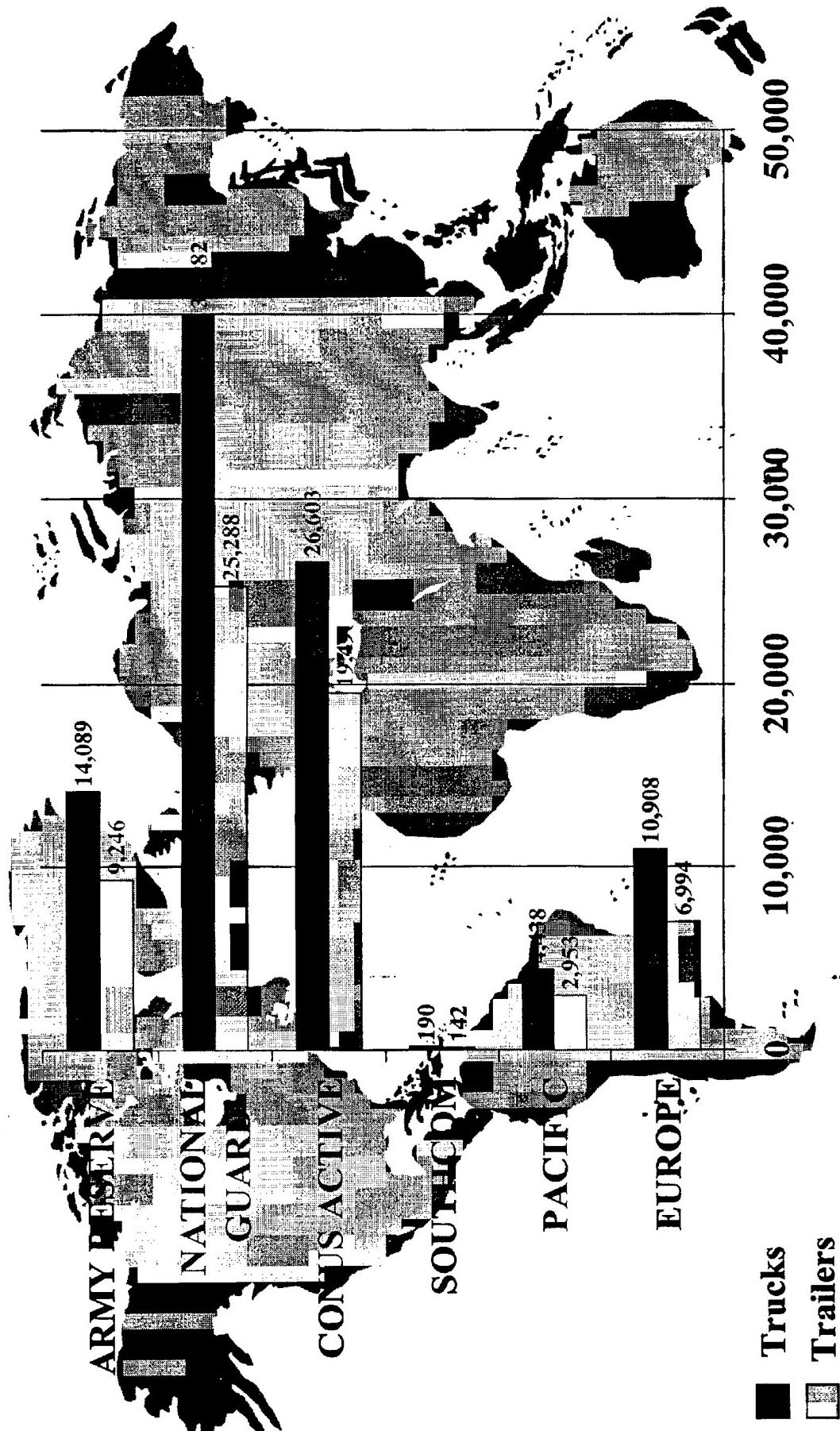
# Heavy Tactical Wheeled Vehicle Fleet

## 26,440 Trucks 25,281 Trailers



# Medium Tactical Wheeled Vehicle Fleet

## 96,210 Trucks 64,113 Trailers



2/2/99

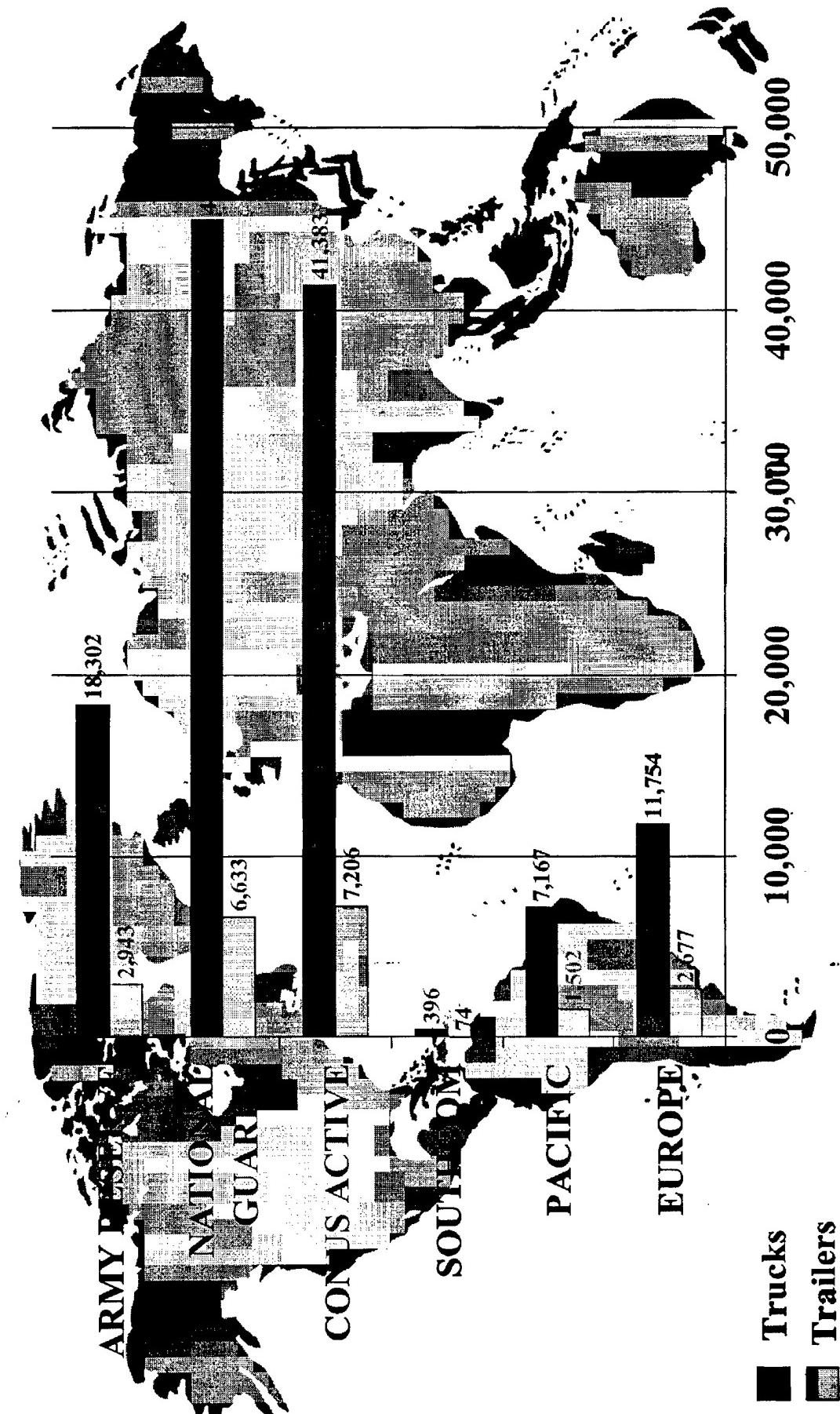
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253

21/55

# Light Tactical Wheeled Vehicle Fleet

## 123,996 Trucks 21,035 Trailers

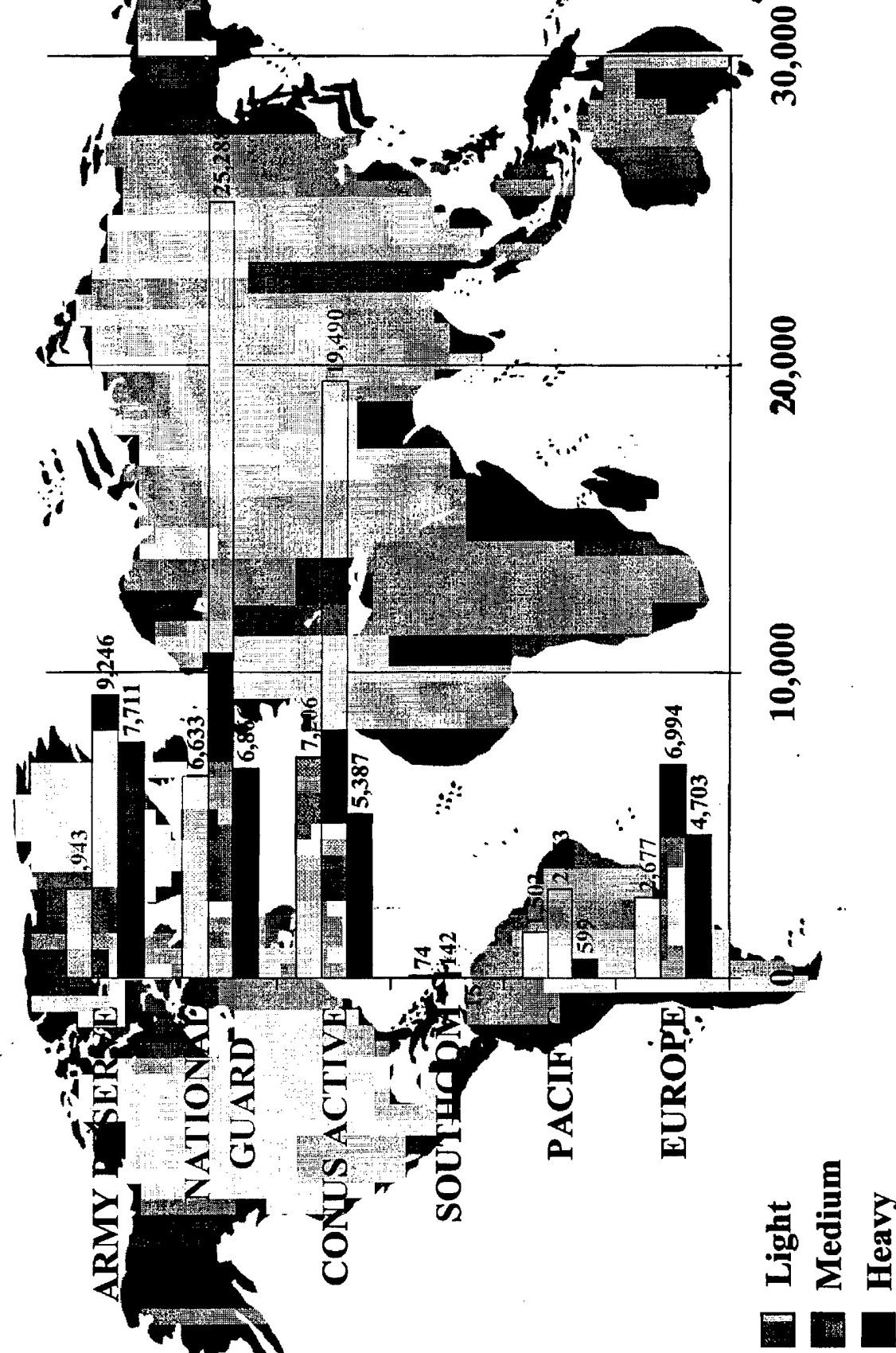


2/2/99

2/2/55

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# Trailers 110,429



- Light
- Medium
- Heavy

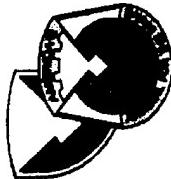
2/2/99

23/55

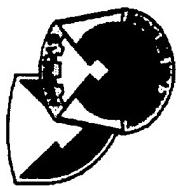
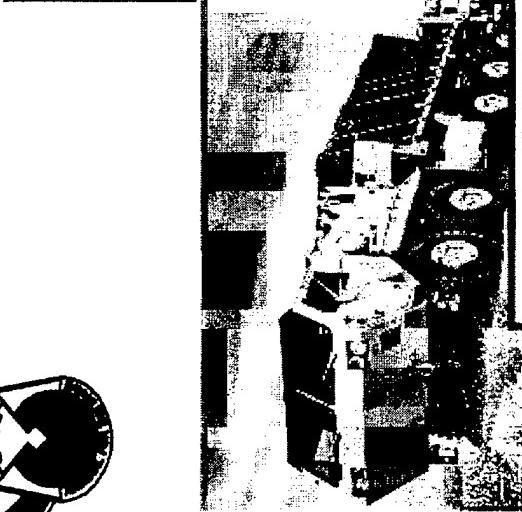
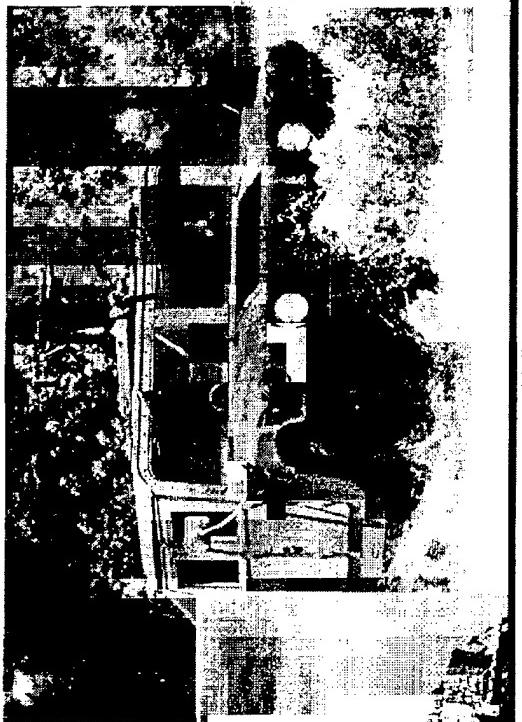
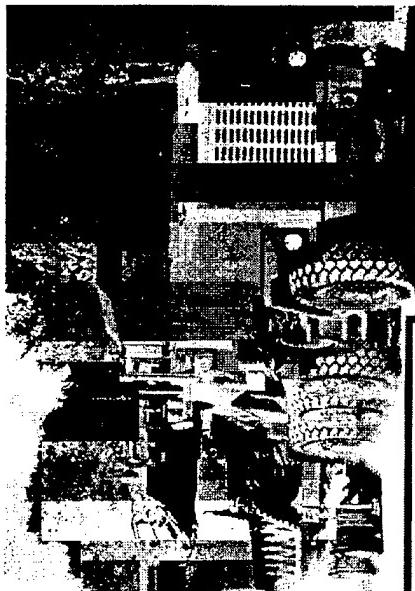
*Committed to Excellence*  
2000



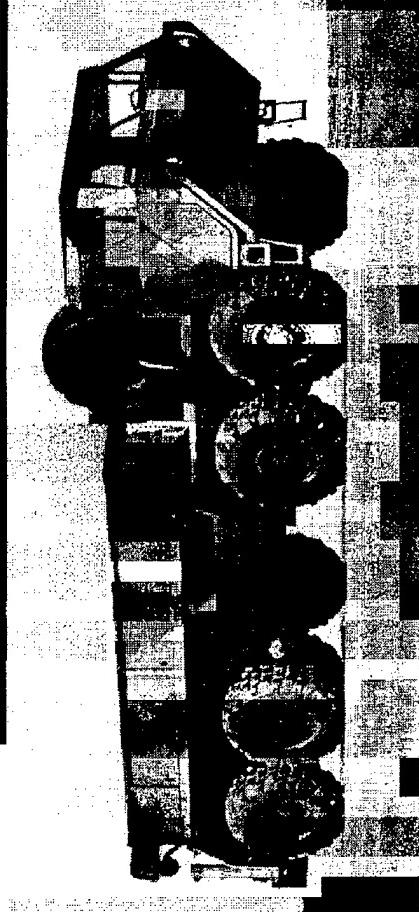
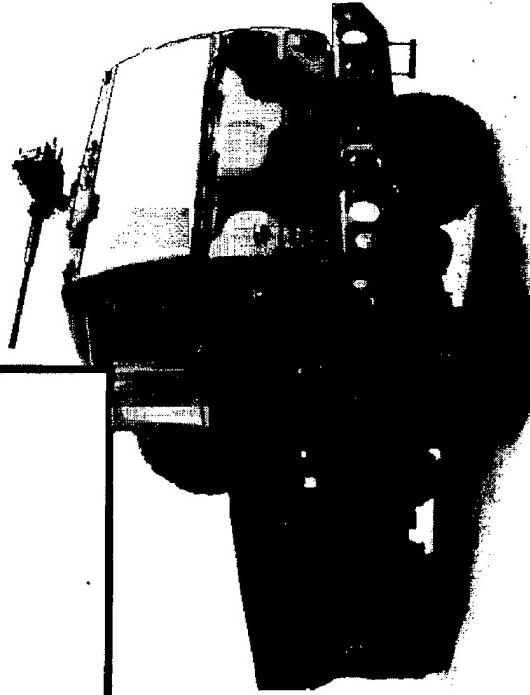
# Tactical Wheeled Vehicles Operation and Support Cost



- Fleet cost \$1.7 billion to operate and support in FY98
- Operation and Support Cost Drivers:
  - Labor/ Mechanic
  - Parts (Engines, Tires, Batteries, etc.)
  - Petroleum, Oil and Lubricants



# Tactical Wheeled Vehicle Procurement

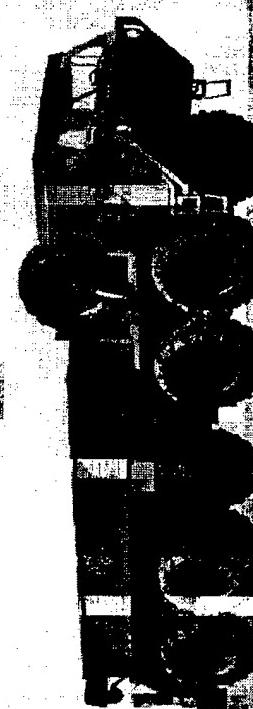
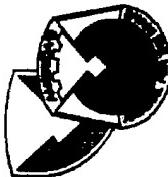


2/2/99

25/55

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262

# Building to the 21st Century Maintaining Capability



Initial Buy

“New Buys” w/Modifications.

Upgrade  
Rebuild

Rebuild/  
Remanufacture

Remanufacture

Future Tactical  
Wheeled Vehicle

Moderнизация  
through Spares





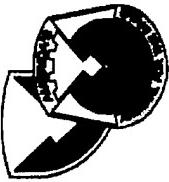
# Tactical Wheeled Vehicle Projected Fleet Procurement

2/2/99

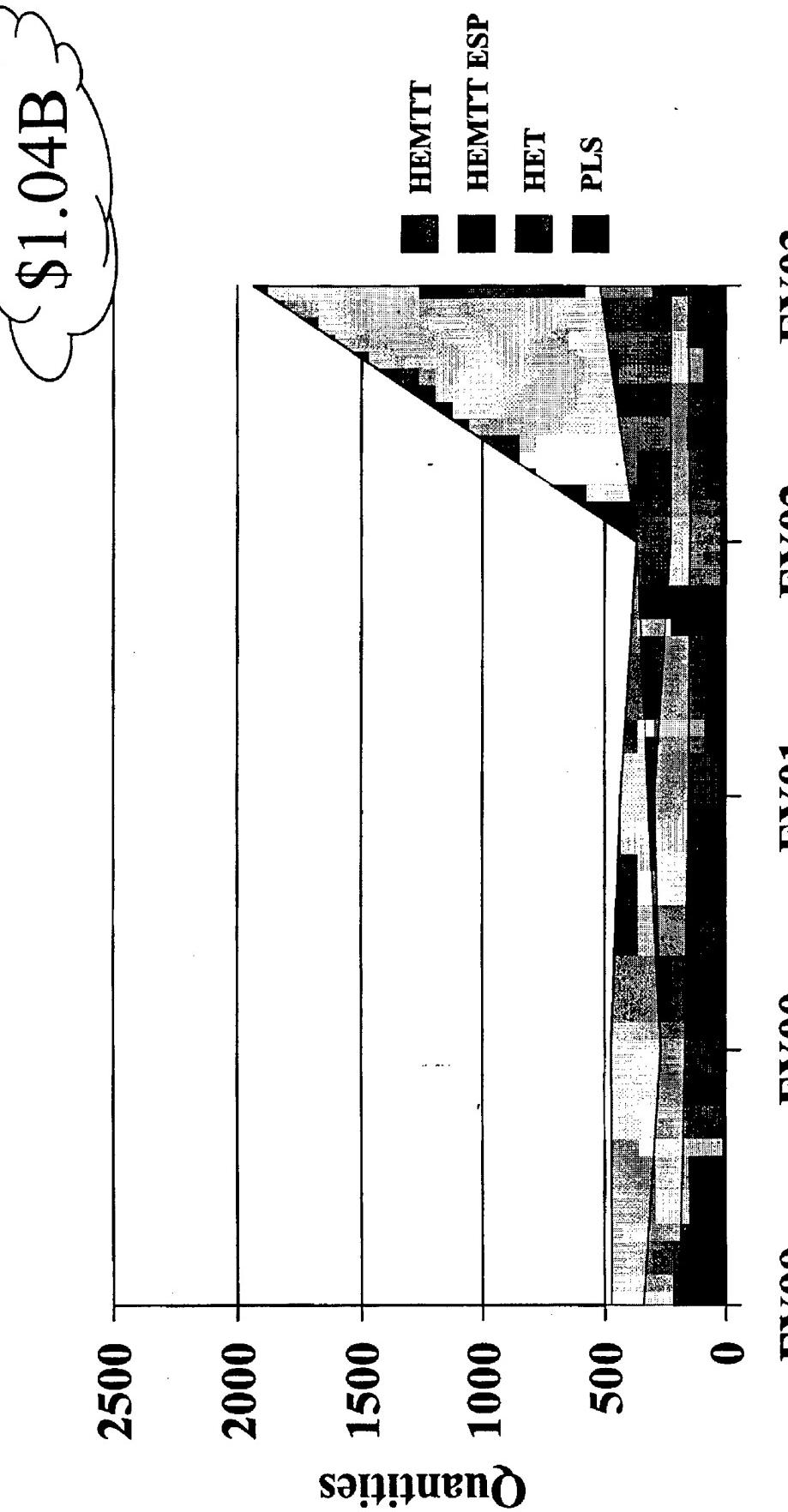
*Committed to Excellence*

27/55

281



## Heavy Tactical Wheeled Vehicles Production/ESP



2/2/99

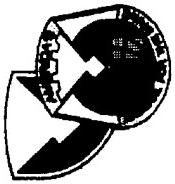
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28/55

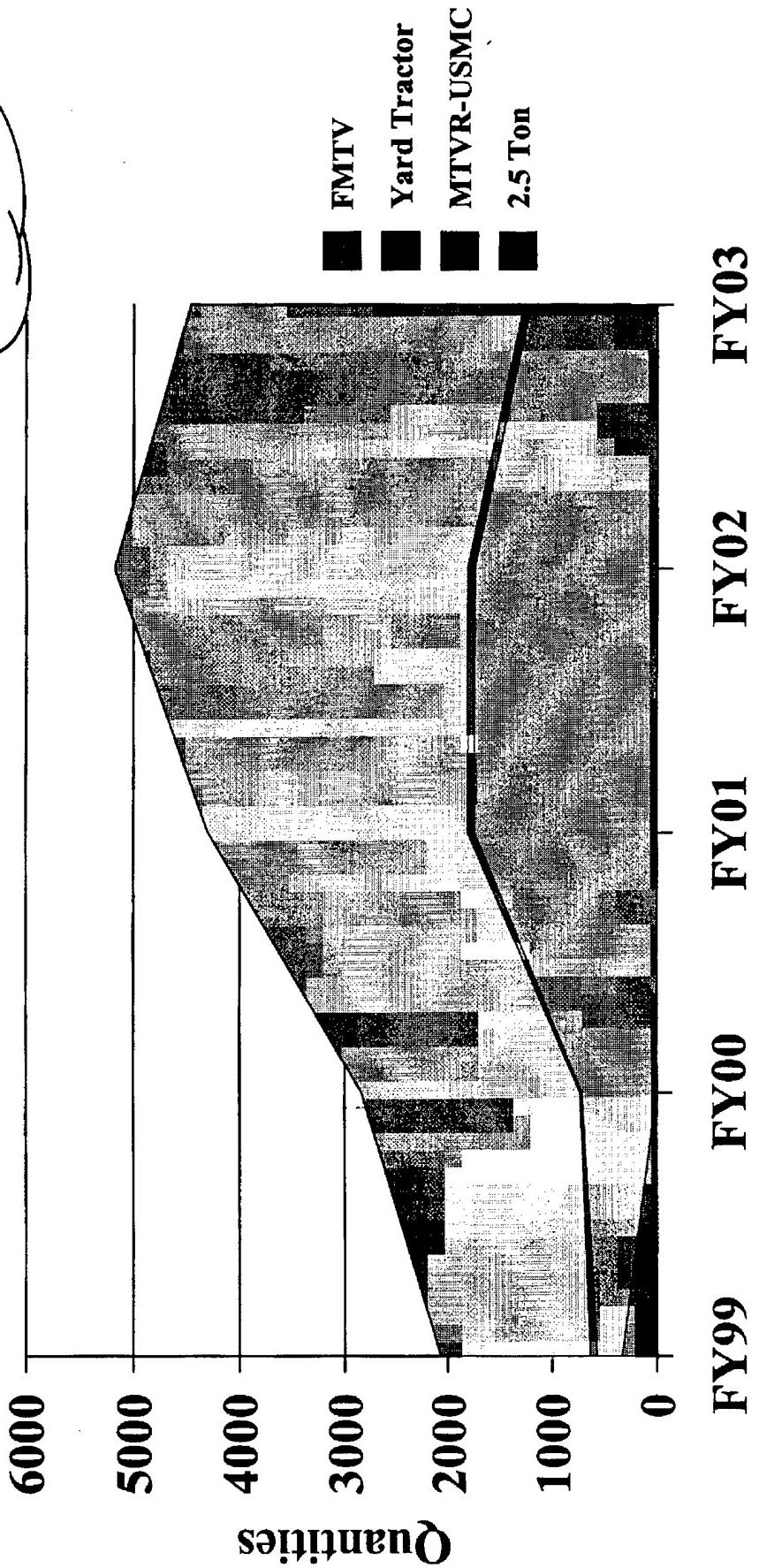
265

# Medium Tactical Wheeled Vehicles

## Production/ESP



\$3.7B

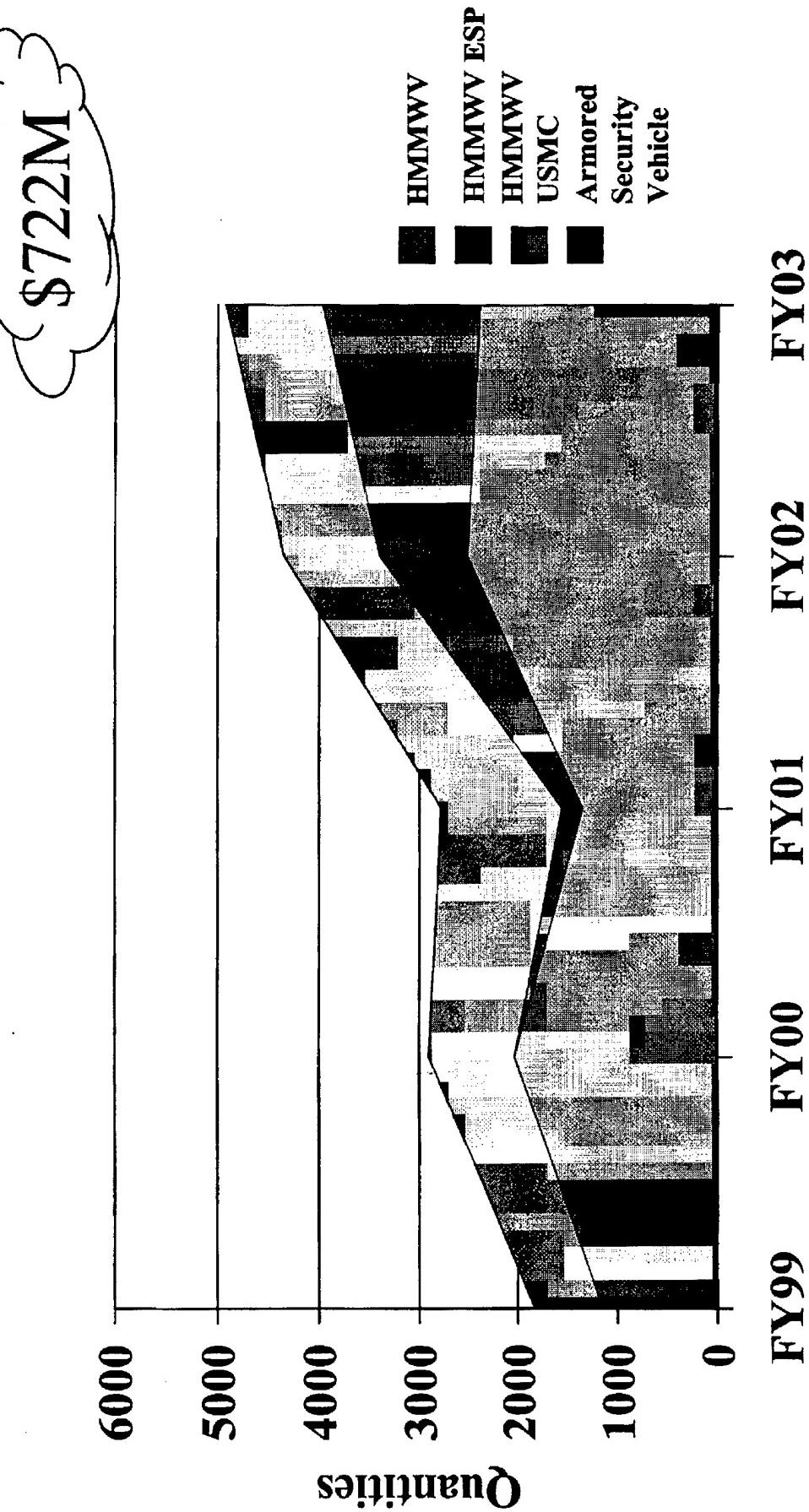
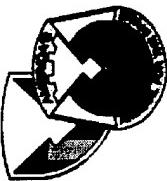


2/2/99

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2006

29/55

# Light Tactical Wheeled Vehicles Production/ESP

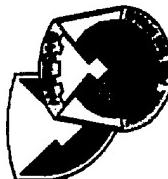


2/2/99

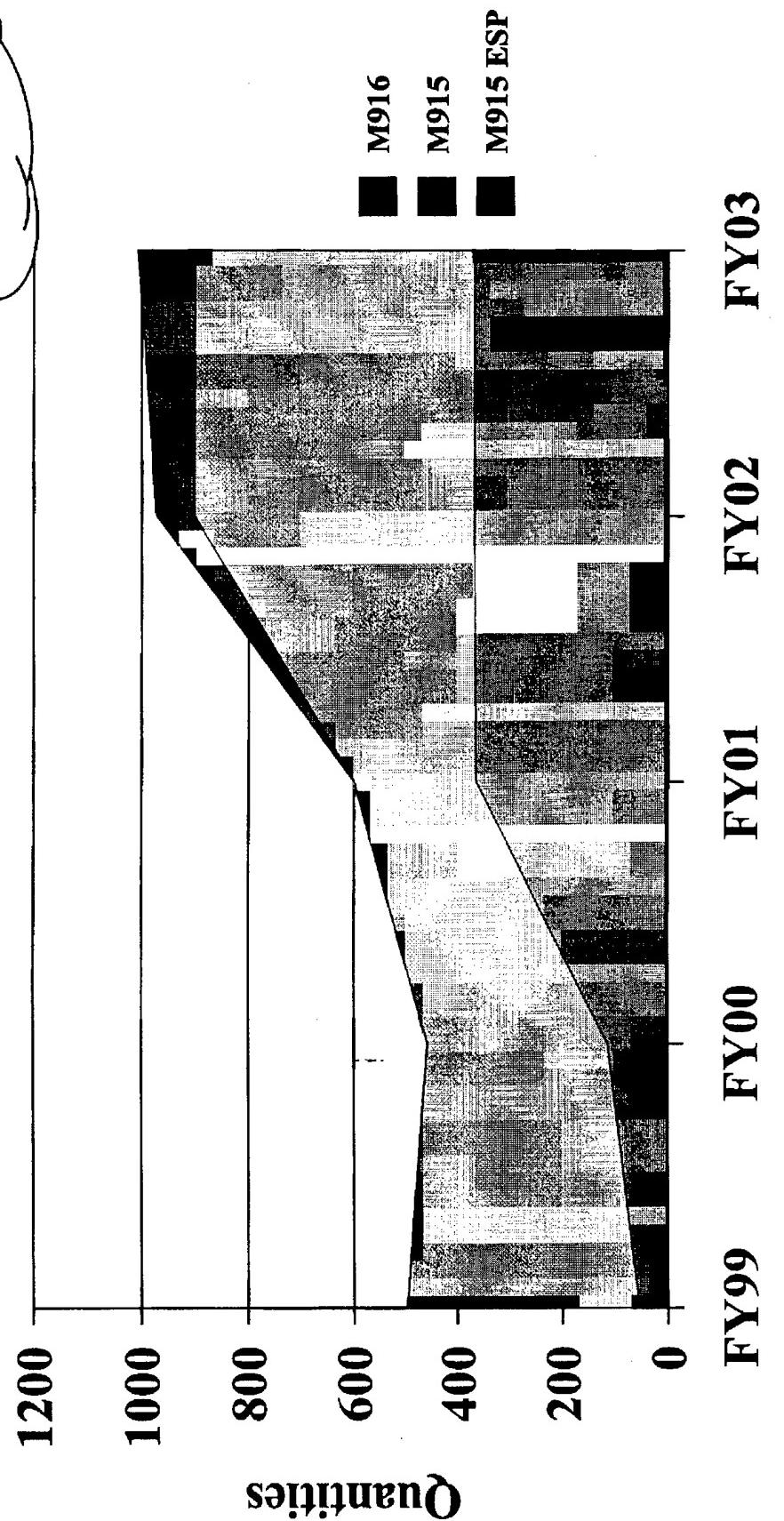
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267

30/55

# Line Haul Trucks Production/ESP



\$403M

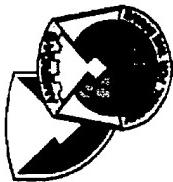


2/2/99

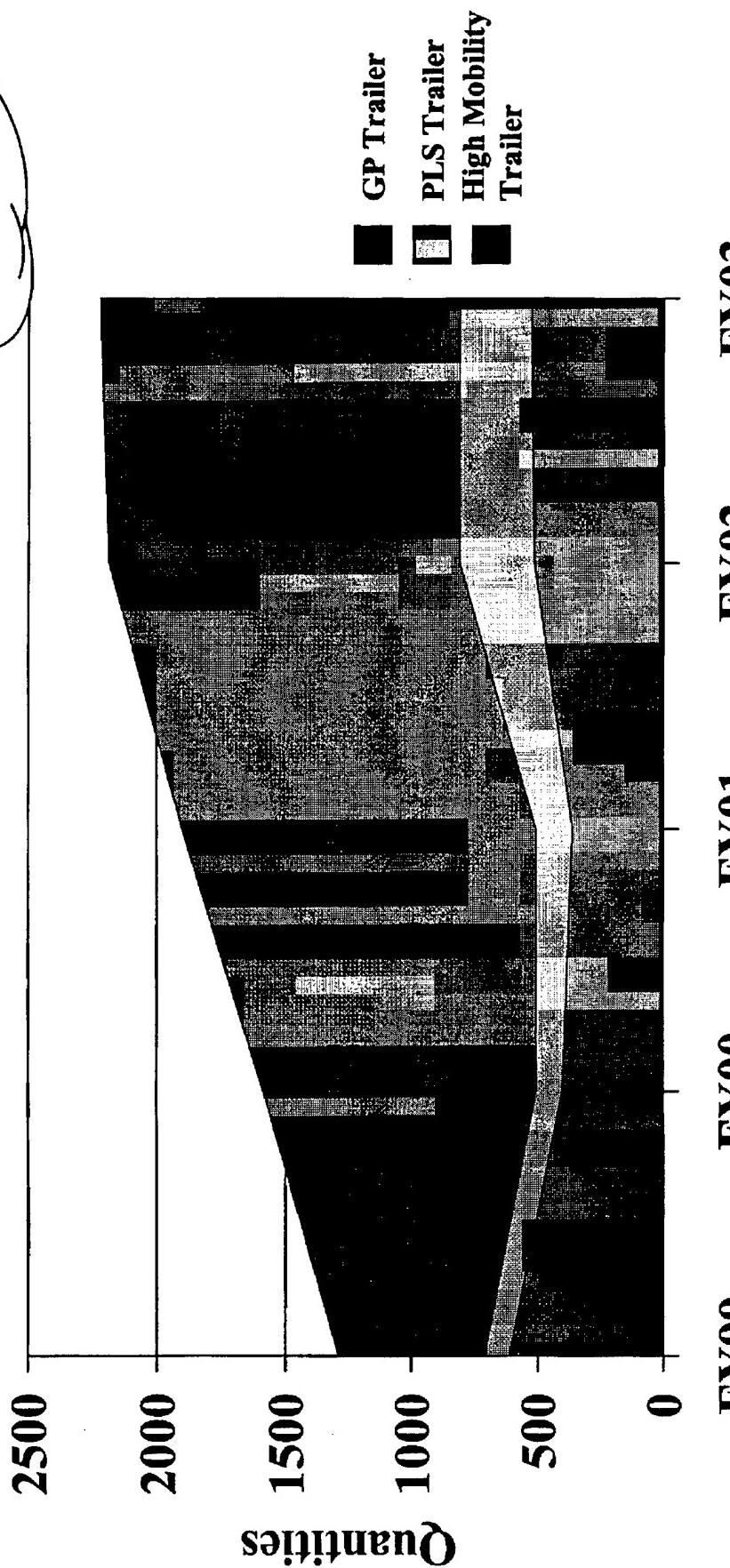
31/55

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268

# Trailers Production/ESP

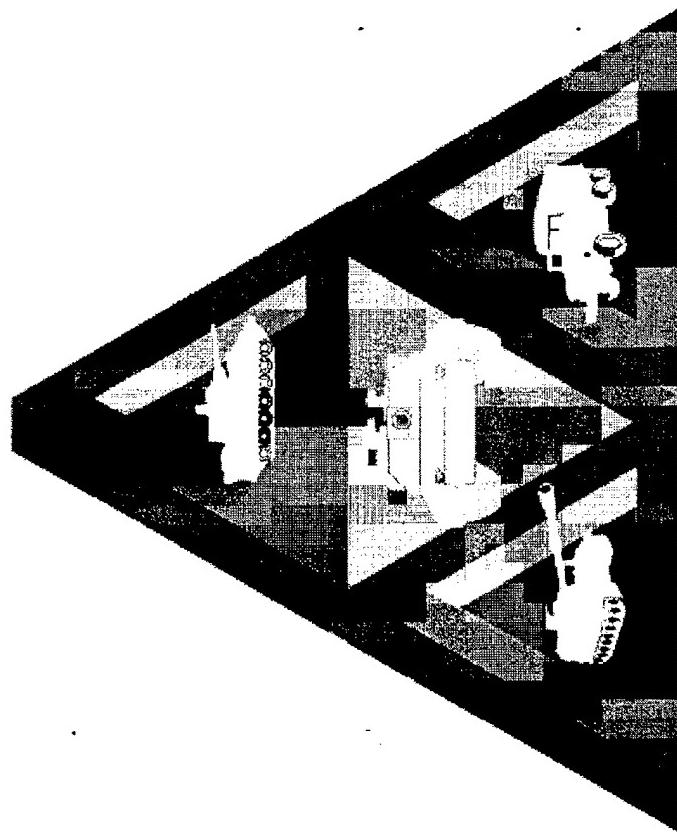


\$4.86M



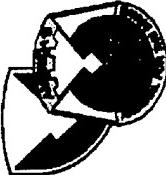


## TACOM & Tactical Wheeled Vehicles



# T A R D E C

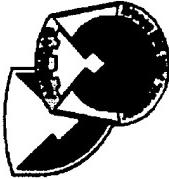
**Research, Development & Engineering**



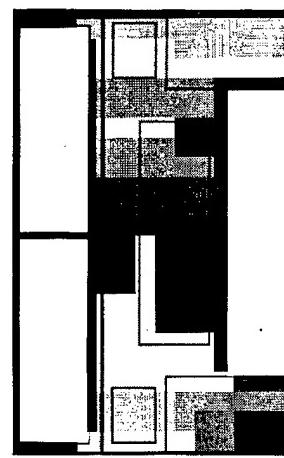
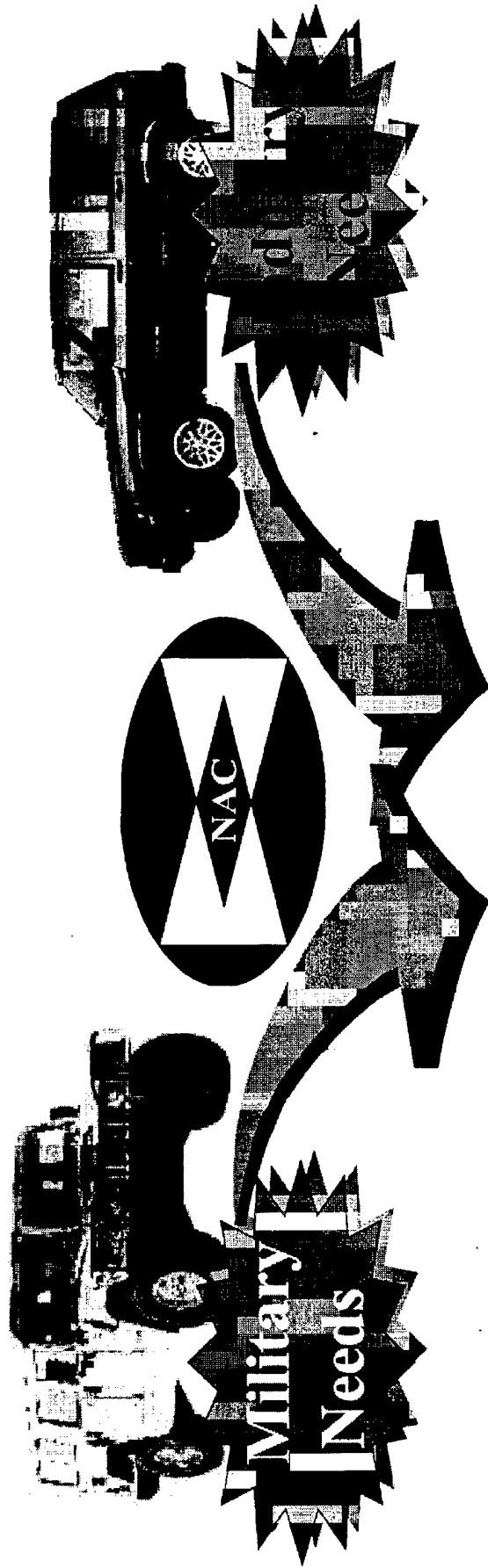
2/2/99

33/55

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# Commercially Based Tactical Truck (COMBAT)



## Next Generation Light Tactical Truck

2/2/99

*Committed to Excellence*

34/55

271

# What COMBAT-TT is

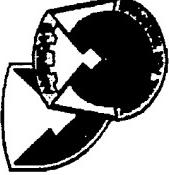
- A DEMONSTRATION of the ability to merge commercial automotive technologies and military NEEDS for the NextGen LTV and HMMWV technology insertion.

- Dual Use Application Program Resulting from Broad Agency Announcement.

- Participation by OSD, TACOM and:

<u>Company</u>	<u>Platform</u>
Chrysler	2000 Ram
Ford	1998 F350
AMG	1998 HMMWV

- Managed jointly by NAC and ERIM International.



# Propulsion System Requirements 21st Century Truck

## Needs/Requisites

- Increased Power Density
- Improved Durability
- Improved Fuel Efficiency
- Legislative Compliance
- Commercially Based

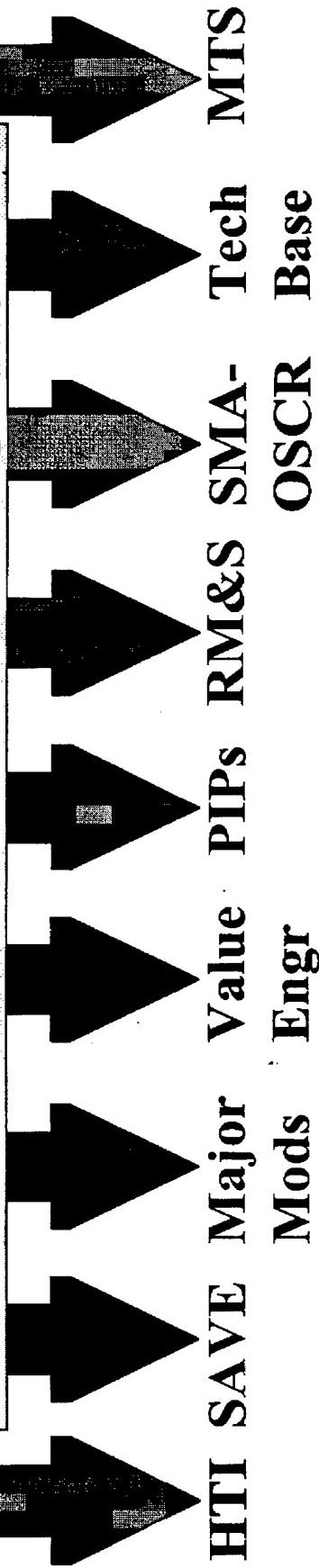
## Technological Solutions

- Advanced Materials
- Smart Sensors
- Digital Controls/  
Architecture
- Functional Integration
- Hybrid Approach
  - Fuel Cells
  - Alternative Fuels

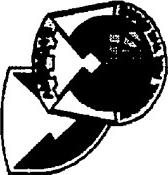
# OSCR Program

Operation and Support Cost Reduction is...

Anything and everything that lowers the recurring cost of owning, maintaining, or sustaining the system



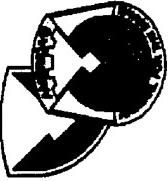
# TACOM'S SMA OSSCR PROJECT SUMMARY



- Successful Projects:

- M915A4 Engine & Suspension Assy
- Redesign HMMWV Soft Top Doors
- Calcium Maintenance Free Battery
- Galvanization of M939 Series Hood
- Replace Tritium Lamps w/LEDs
- Ceramic Material Plasma Spray
- M295 Equip Decontamination Kit
- Recoil Exerciser 155m Howitzer
- AGT 1500 Eng Blade Repair
- Smart Battery and Charger
- Fiber Optic Gyro, M2
- Drain Plug Kit Replacement BFV
- Improved Moldboard Ext BCS
- M109/M992 Fuel Cells
- Gunfire Simulator Circuit Card
- M119A1 Spare Parts Redesign
- Alternate Power Sys for SUSV
- ROWPU Improvements
- AH64A Improved CRT Cable Strain Relief
- AH64A CRT Wire Splice
- Improved Track Lock BCS
- M10 Charger Simplification
- One-Piece Periscope (M17)
- AH-64A Helmet Cable Improvement
- M203A1 Grenade Launcher Handguard
- Alt. Source for Variable Speed Fan, M113

- **26 Initiatives Funded with \$6.6M Investment (FY98-03) \$34.5M**
- **Projected Field Savings for POM (FY98-03) \$34.5M**



# Blueprint For Change: Standardization Reform Effort

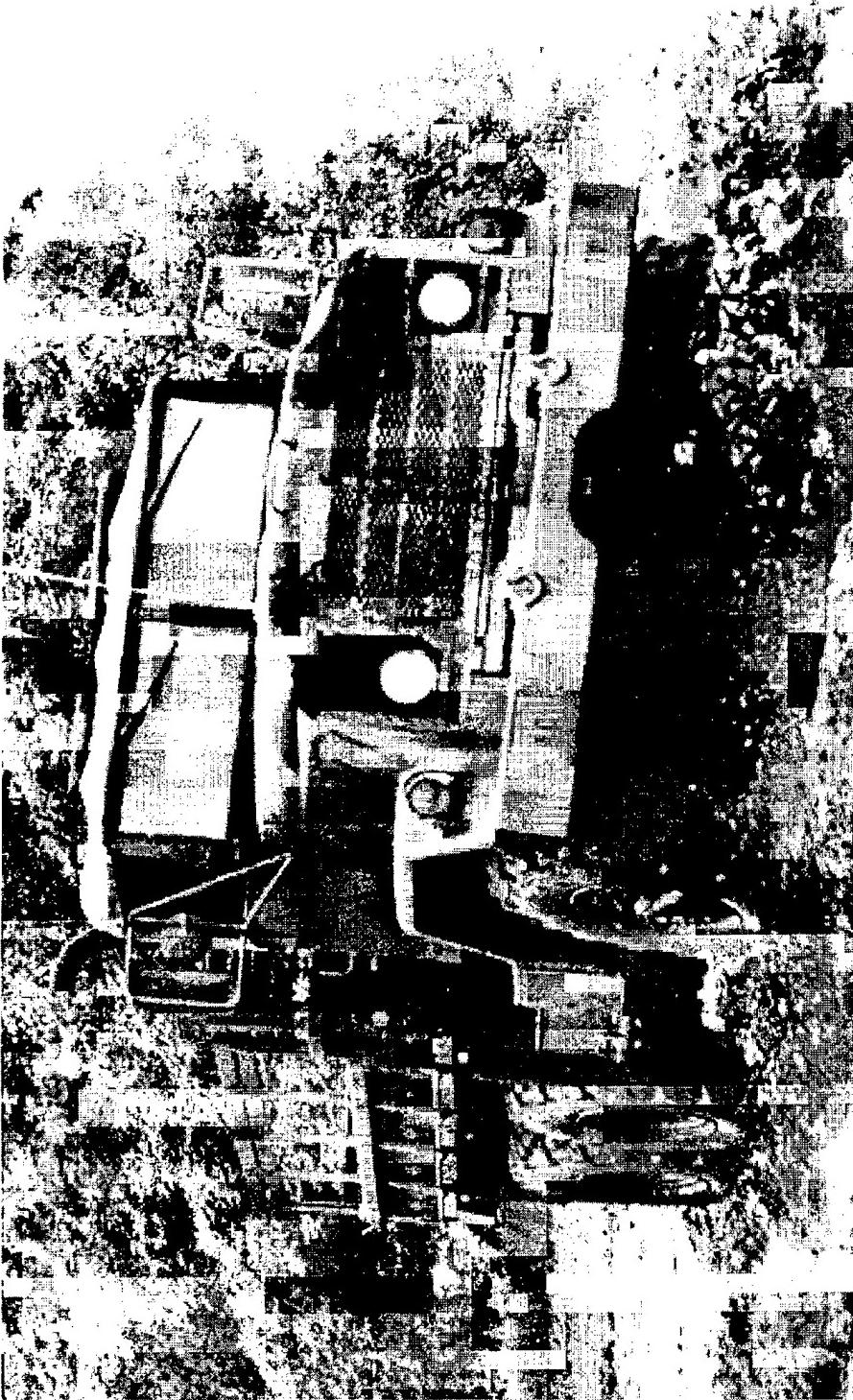
Active	Yesterday	Today
Specifications and Standards	5,147	1,075
Performance Specifications	--	157

Commercial Item Descriptions

127

**Highlights:** New Non-Government Standards -- 24

Cancelled 1,057 documents      Inactivated 1,832 documents



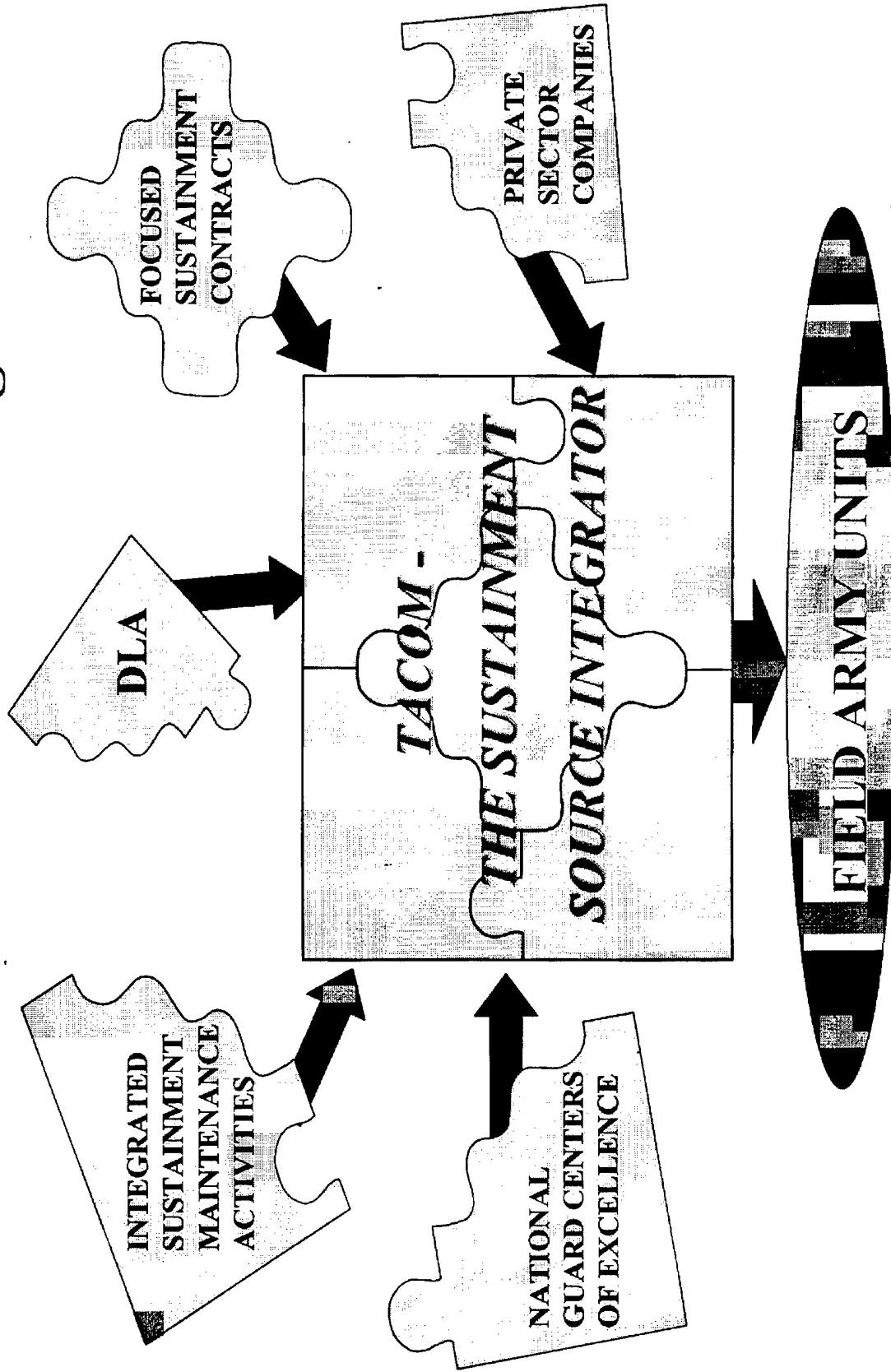
# TACOM and Tactical Wheeled Vehicle Sustainment

2/2/99

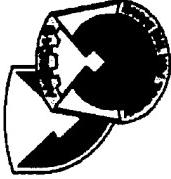
40/55

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2/2/99

# Tactical Wheeled Vehicle Sustainment Challenges



# Tactical Wheeled Vehicle Sustainability Challenges



**WHAT WE'RE DOING:**

**INTEGRATED, MULTI-FUNCTIONAL COMMODITY BUSINESS UNITS (CBU)**

**SUSTAINMENT SOURCE INTEGRATOR - FOCUSED SUSTAINMENT**

**MANAGE FROM THE CUSTOMER'S PERSPECTIVE - READINESS CELL**

**INCREASE LONG TERM CONTRACTS WITH OUR VENDORS**

**BUY "RESPONSE" NOT INVENTORY**

**REDUCE COSTS/REDUCE SURCHARGE**

**REDUCE ADMINISTRATIVE AND PRODUCTION LEAD TIMES**

**REDUCE INVENTORY**

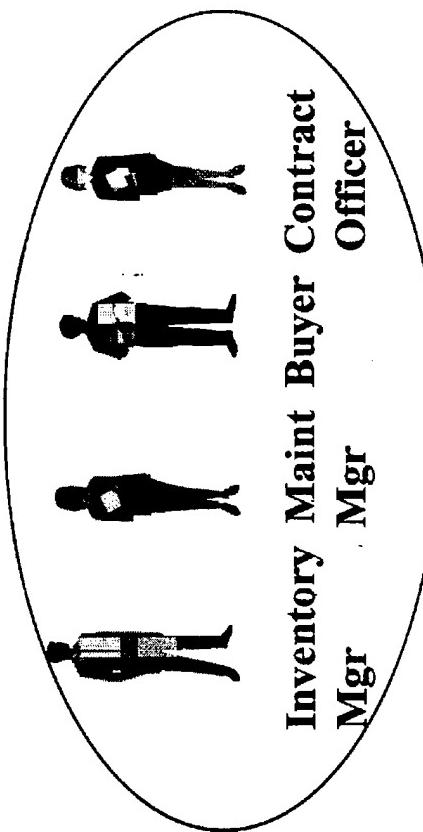
**REDUCE BACK ORDER AGE**

# Commodity Business Unit (CBU)

## Multi-Functional Team Development

### BEFORE

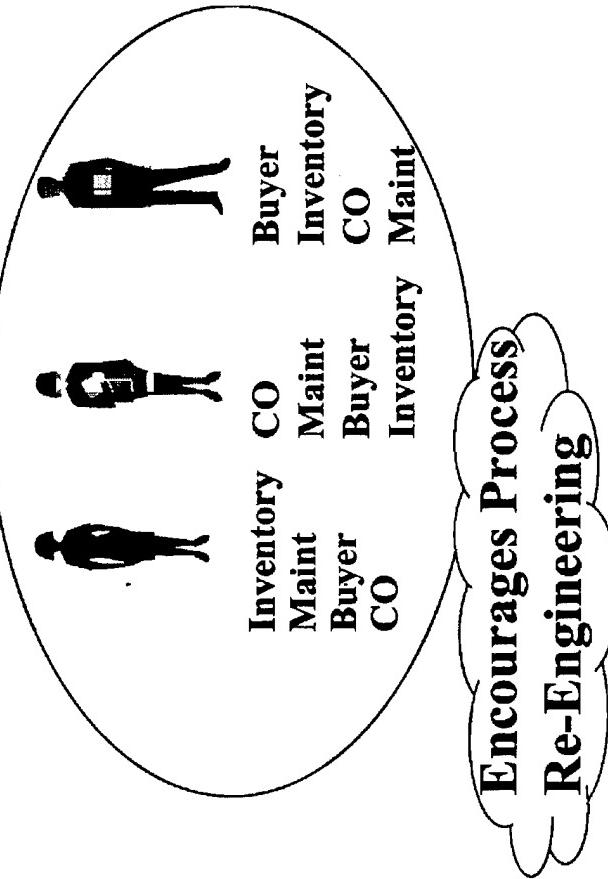
Multi-Functional  
Teams made up of  
Specialized Associates



Reinforces  
Stovepipes

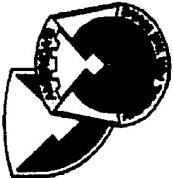
### AFTER

Multi-Functional Teams  
made up of Multi-  
Functional Associates



Encourages Process  
Re-Engineering

Development to Multi-Functionalism: Osmosis is not good enough.



# NATIONAL MAINTENANCE FOCUS

## CURRENT SITUATION IS ...

*An Army Sustainment Stampede...*

e.g.,  
*PALADIN BUSINESS CASE STUDY;*

*MIA2 CLS;*

o PEO INITIATIVES . . .  
o AMC MAJOR SUBORDINATE  
COMMAND ACTIONS AND  
INITIATIVES . . .

o FIELD ARMY INITIATIVES . . .

e.g.,  
ISM and SRA proliferation;  
independent repair programs; post,  
camp, station individual contracts  
for support

e.g.,  
*Traditional five-level  
maintenance operations*

*Legacy system support  
and sustainment*

*Integrated Logistics  
Support planning and  
execution*

“CURRENT NEED IS FOR A SUSTAINMENT SOURCE INTEGRATOR ...”

# NATIONAL MAINTENANCE FOCUS

## WHAT IS FOCUSED SUSTAINMENT?

IDIQ CONTRACT INSTRUMENT

*LEVERAGE TACOM CONTRACTING  
EXPERTISE BY SELECTING "BEST OF  
BREED" FROM OVER 40 STOKEPIPES*

### EQUIPMENT EVALUATION

- DIAGNOSTICS
- TECHNICAL ASSISTANCE
- WRENCH TURNING
- TRAINING
- PARTS SOURCING
- MATERIEL FIELDING
- LOGISTICS DATABASE UPDATES:

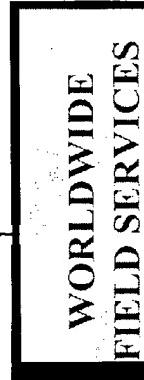
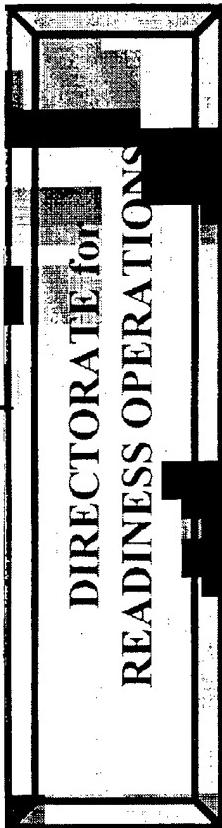
Multiple awards; multiple contractors

Work assignment protocols to select "best" source for each deliverable

RECOMMENDED CHANGES TO EQUIPMENT (EIR/ECP) "now" hours needed  
Priced buy only

"TACOM - SUSTAINMENT SOURCE INTEGRATOR"

## DCG for CORPORATE MGMT



- Technical Advice Assistant
- Field Problem Reporting
- Wholesale to Retail Interface

*Rock Island, IL*  
SCR CONUS  
SCR Far East  
SCR USA/EURO

- Current Plans
- Future Concepts
- Fleet Planning
- Data Management

- Material Readiness
- Management

- Unit Readiness  
(Regional Teams)
- Analysis- Marketing
- Field Problem Resolution

*CONUS CENTRAL*  
*CONUS WEST*  
*CONUS EAST*  
*FAR EAST*  
*EUROPE*

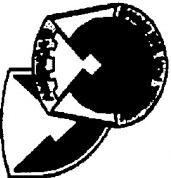
- Customer Support
- 1-800-TACOM
- Off Line Requisitions

- OPLANS
- LOGPLANS
- LSE Planning

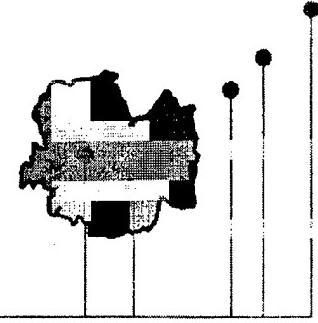
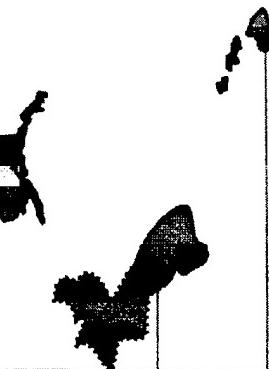
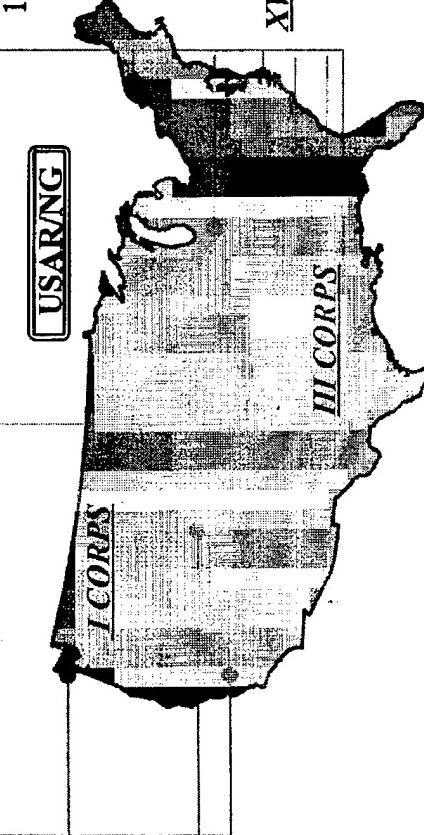
*Warren, MI.*  
*Rock Island, IL.*

2/2/99

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Z33



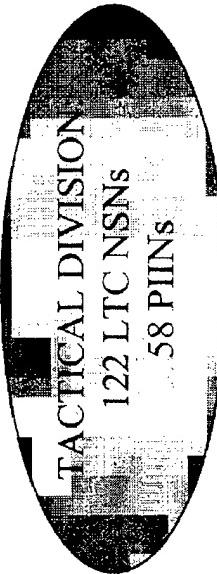
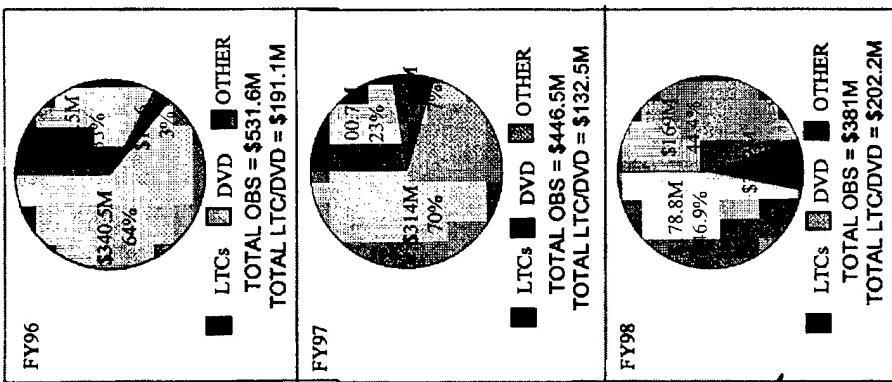
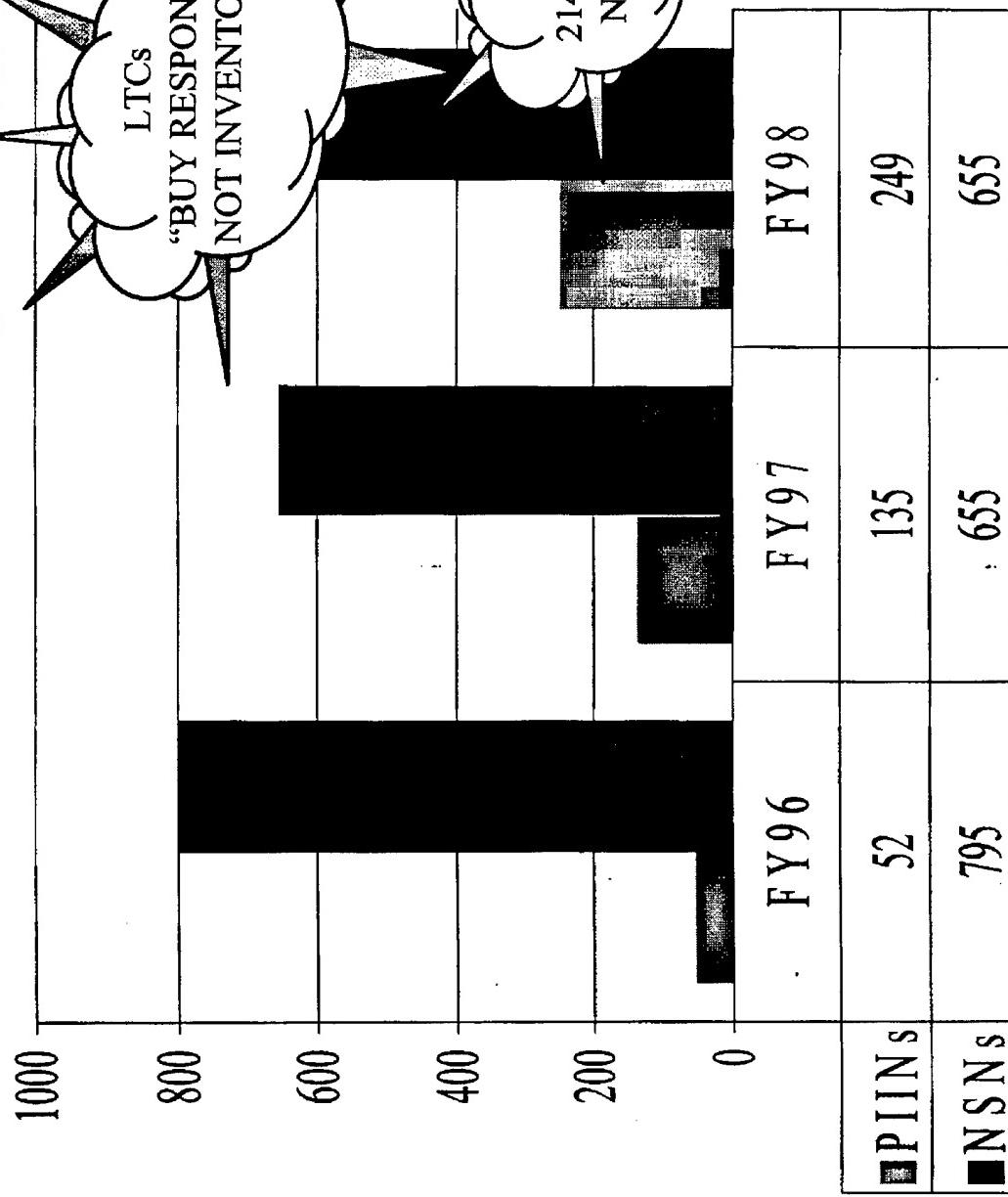
# UNIT MATERIEL READINESS TEAMS REGIONAL ALIGNMENT



222

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# TACOM ALT/PLT REDUCTION PROGRAM LONG TERM CONTRACT PERFORMANCE

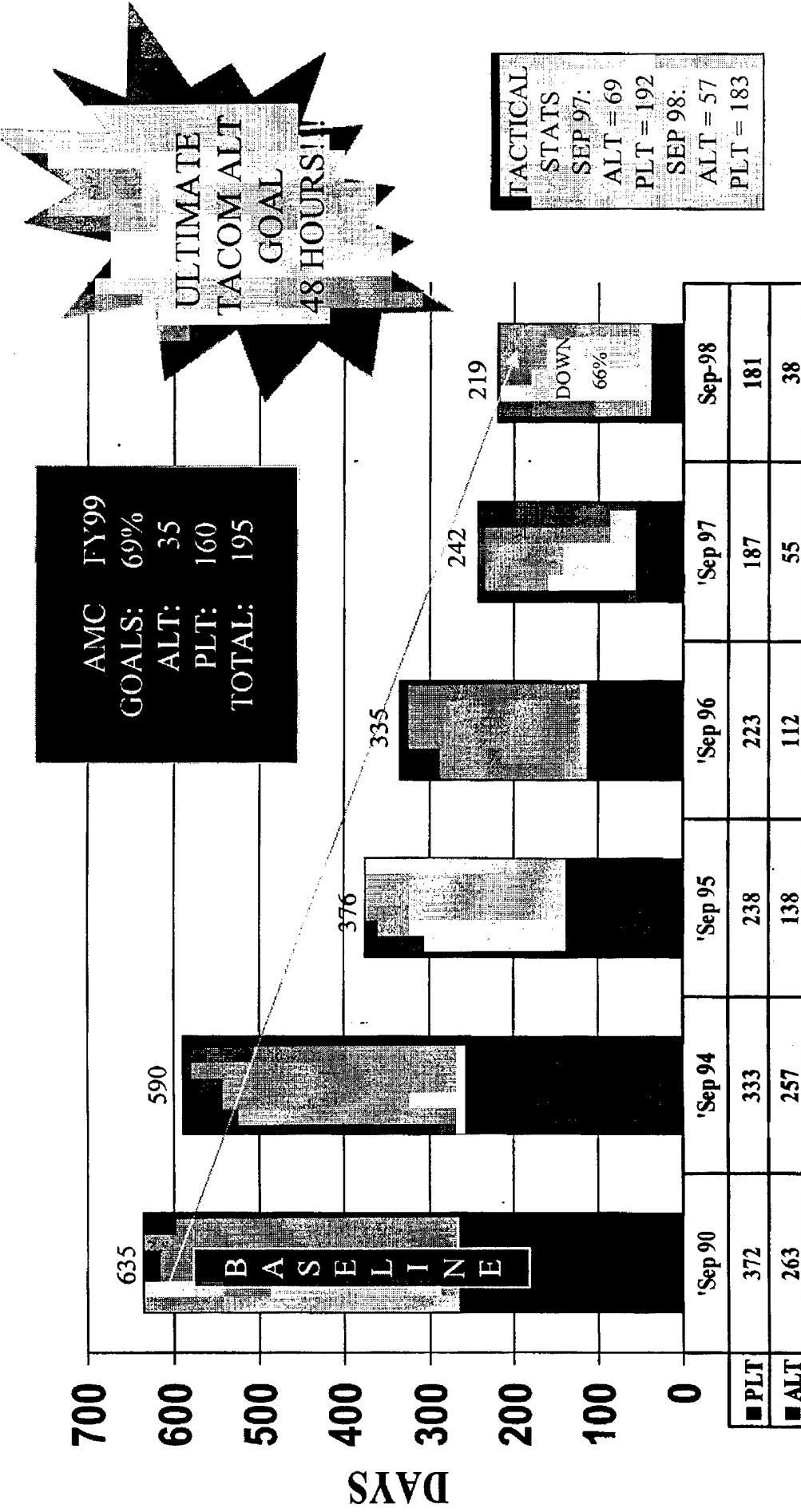
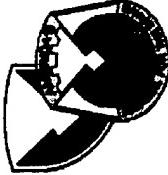


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# ALT/PLT REDUCTION PROGRAM

## TACOM MILESTONES

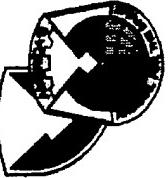


SOURCE DOCUMENT - Sep 98 STRAT

2/2/99

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286



# We Need Your Help!

## Future Truck Technology Needs

- Propulsion
  - Fuel Efficient
  - “Clean”
  - More Power
- Suspension and Running Gear
  - Independent
  - Active/Semi-Active
  - Anti-Lock Brakes
  - Automatic Traction Control
- Wheels/Tires
  - Improved Run Flat
  - Central Tire Inflation System
  - Band Track
- Electronics
  - Situation Awareness
  - Movement Tracking System
  - Improved Deployability
    - Reduced Weight
    - Reduced “Footprint”
  - Extended Fleet Life
    - Diagnostics/Prognostics
    - Increased Corrosion Protection
  - Safety
    - Collision Warning System
    - Crew Safety Protection
    - Improved Ergonomics

# Conclusions:

- Total cost of ownership is critical
  - Aging fleet
  - Operation and Support cost consideration
- TACOM is source integrator for TWV sustainment
- Must renew the fleet
  - Rebuild
  - Remanufacture
  - Buy new

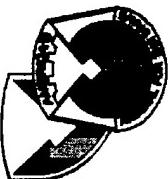


What is a soldier without TACOM?



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# A Tourist!

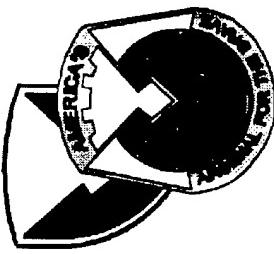


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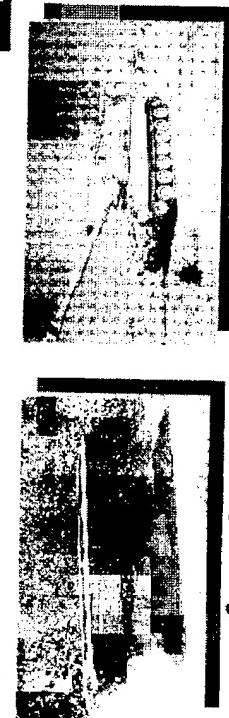
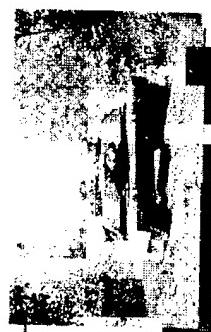
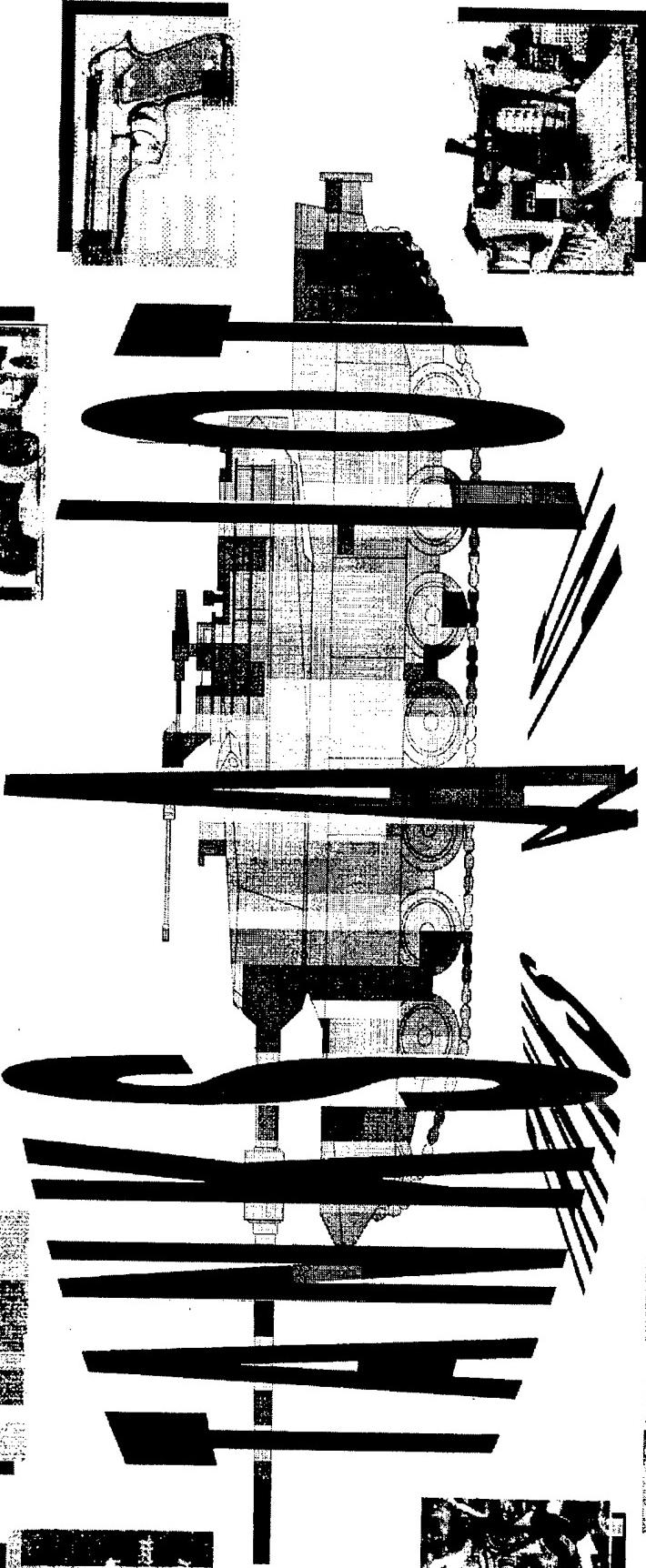
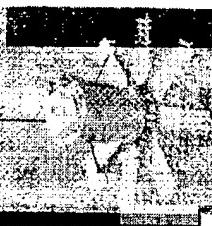
200

53/55

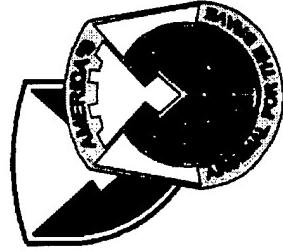


# TACOM

*Mobility and Firepower  
for America's Army*



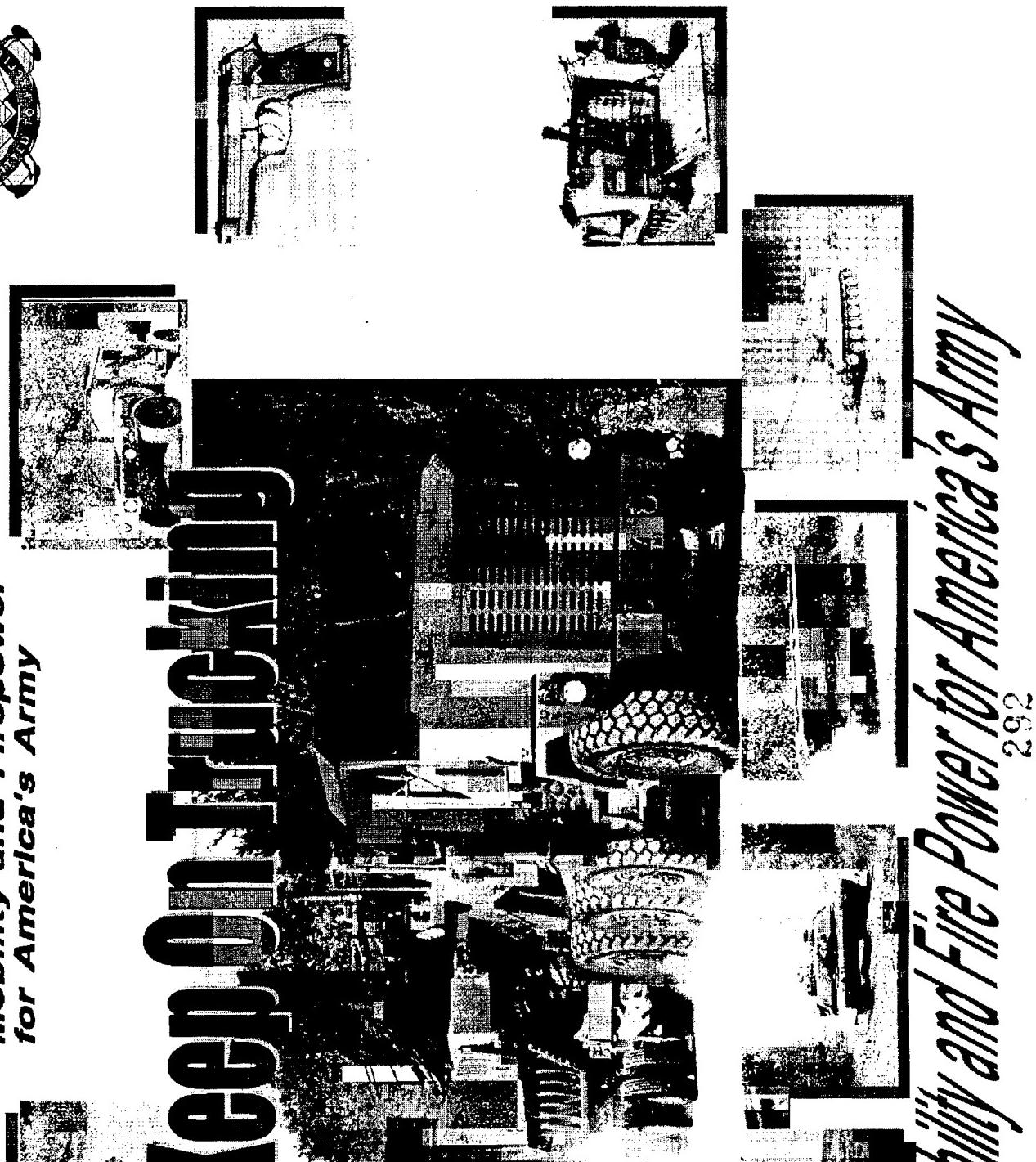
*Mobility and Fire Power for America's Army*



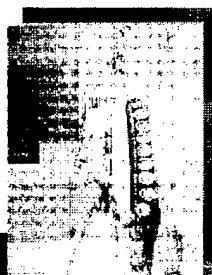
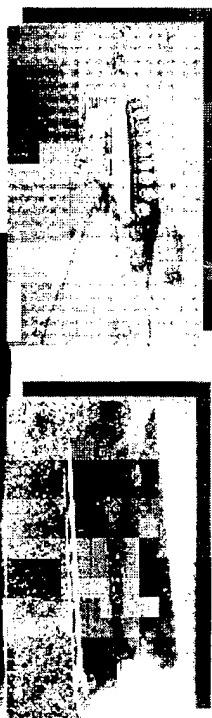
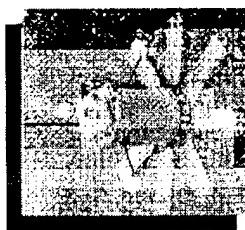
**TACOM**

*Mobility and Firepower  
for America's Army*

# KEEP ON TALKIN'

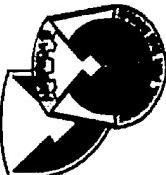


292



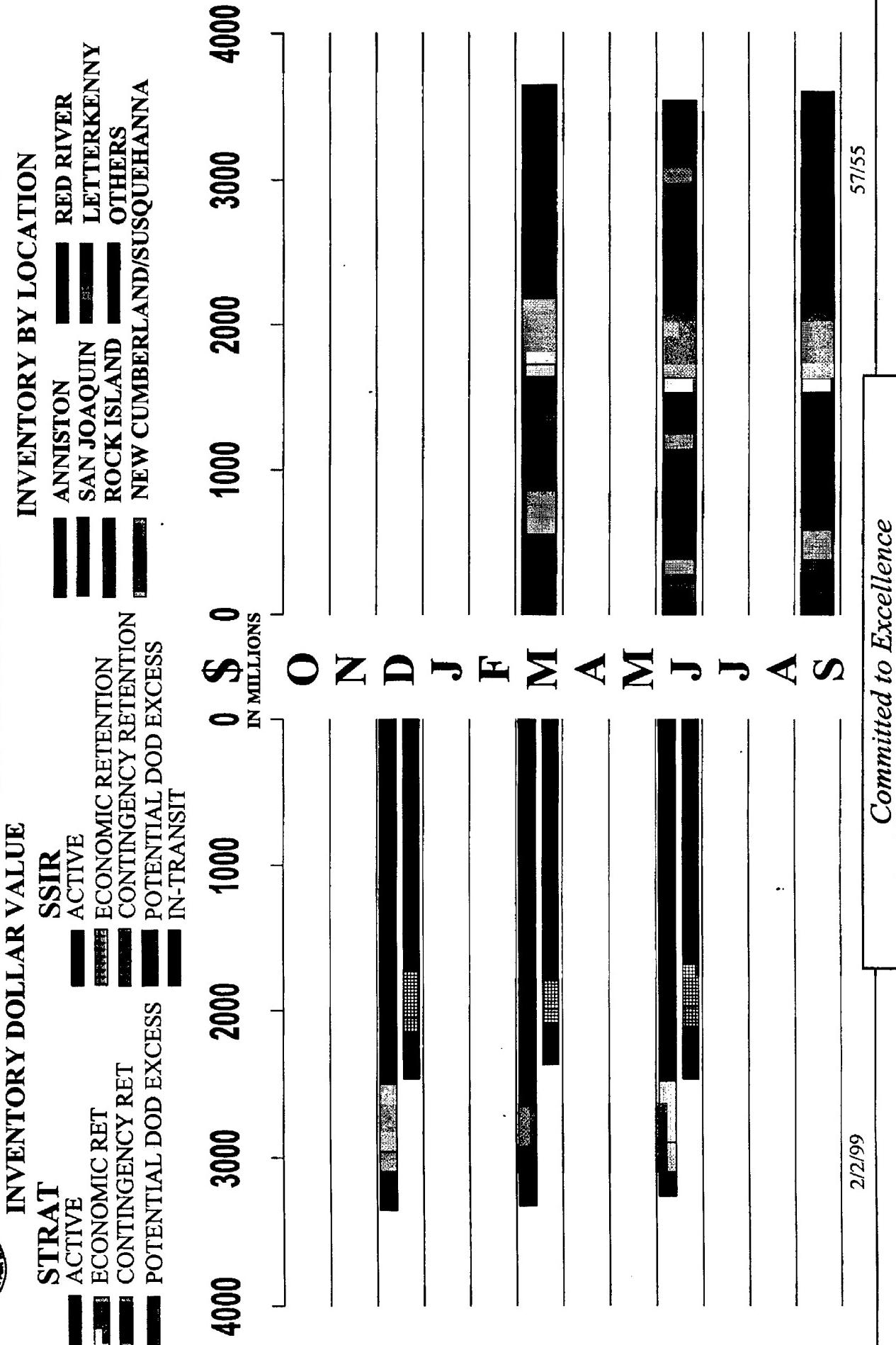
*Mobility and Fire Power for America's Army*

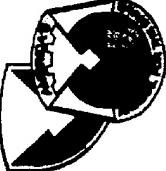
# Backup Charts



# ON HAND INVENTORY AWCF CLASS 2,4,9 BY CATEGORY

AWCF CLASS 2,4,9  
BY CATEGORY





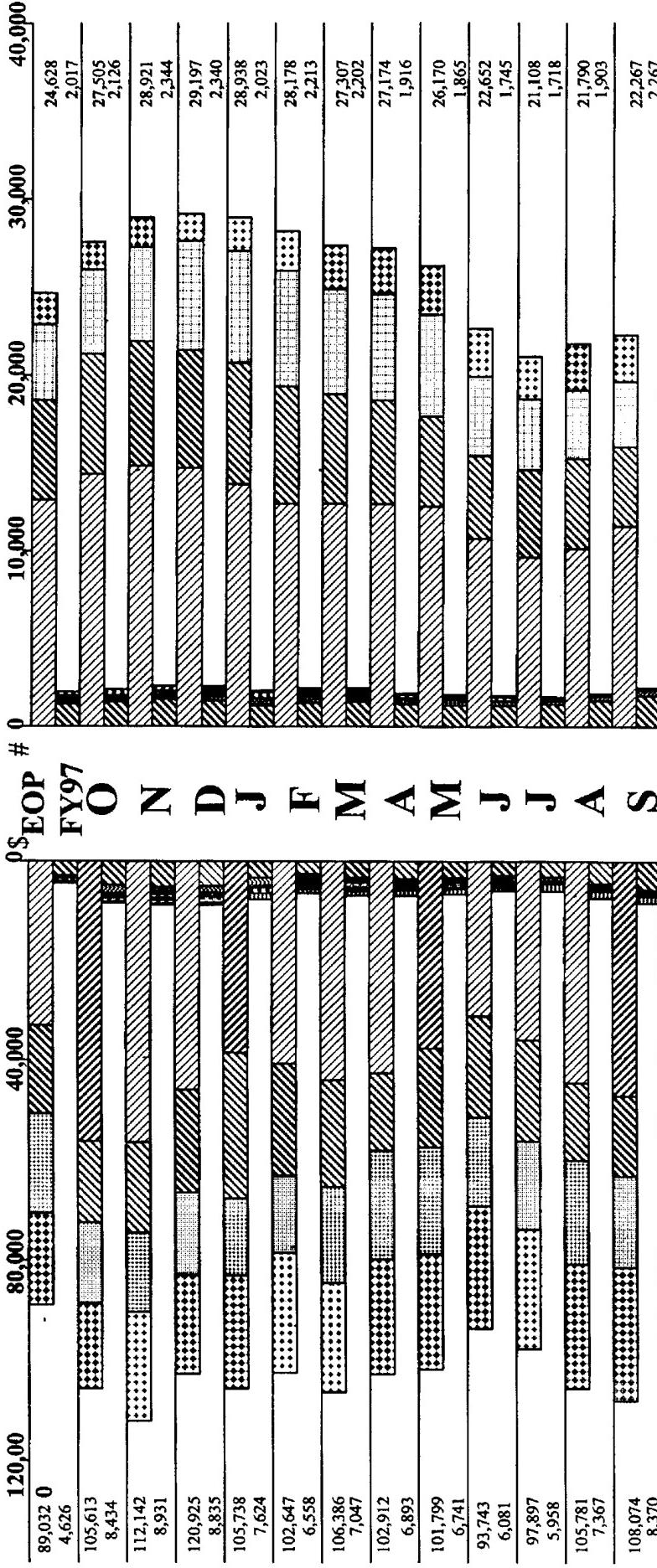
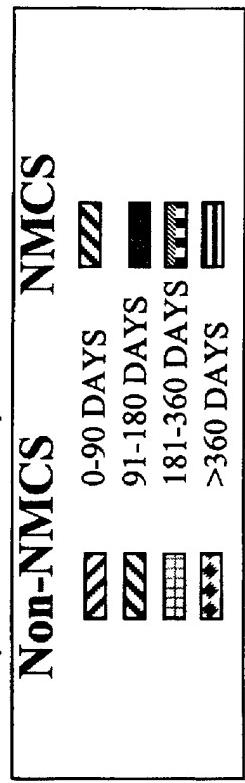
# DOLLAR VALUE of STOCKED BACKORDERS

vs.

# STOCKED BACKORDER LINES

Dollar Value of backorders (thousands)

Backorder Lines



EOP = End of Period

Source: MILSTEP

58/55

2/2/99

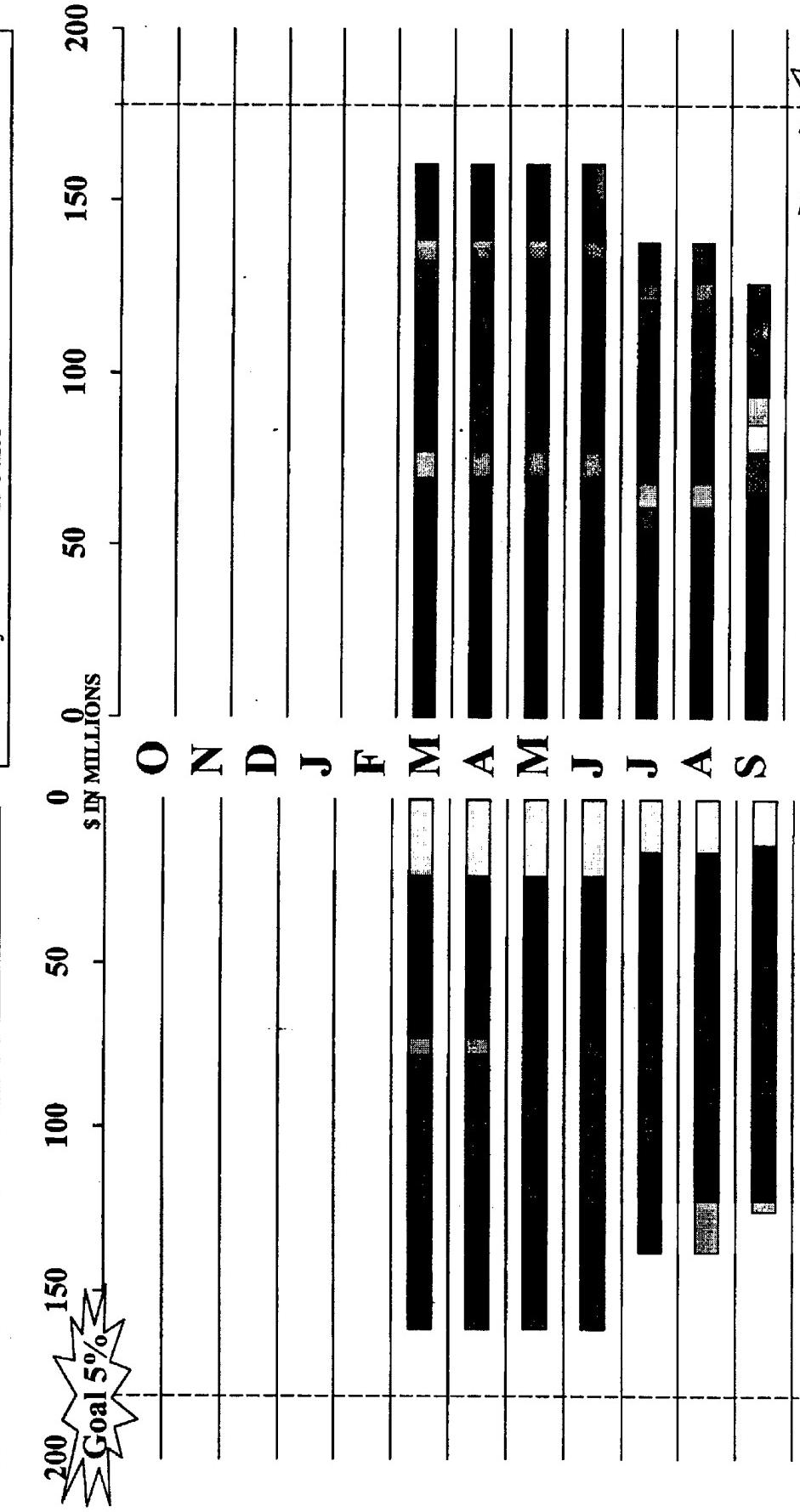
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# DORMANT STOCK

Supply Class 2, 4, 9

## DOLLARS BY LOCATION

Susquehanna	Red River	San Joaquin
Anniston	Tobiahanna	Other



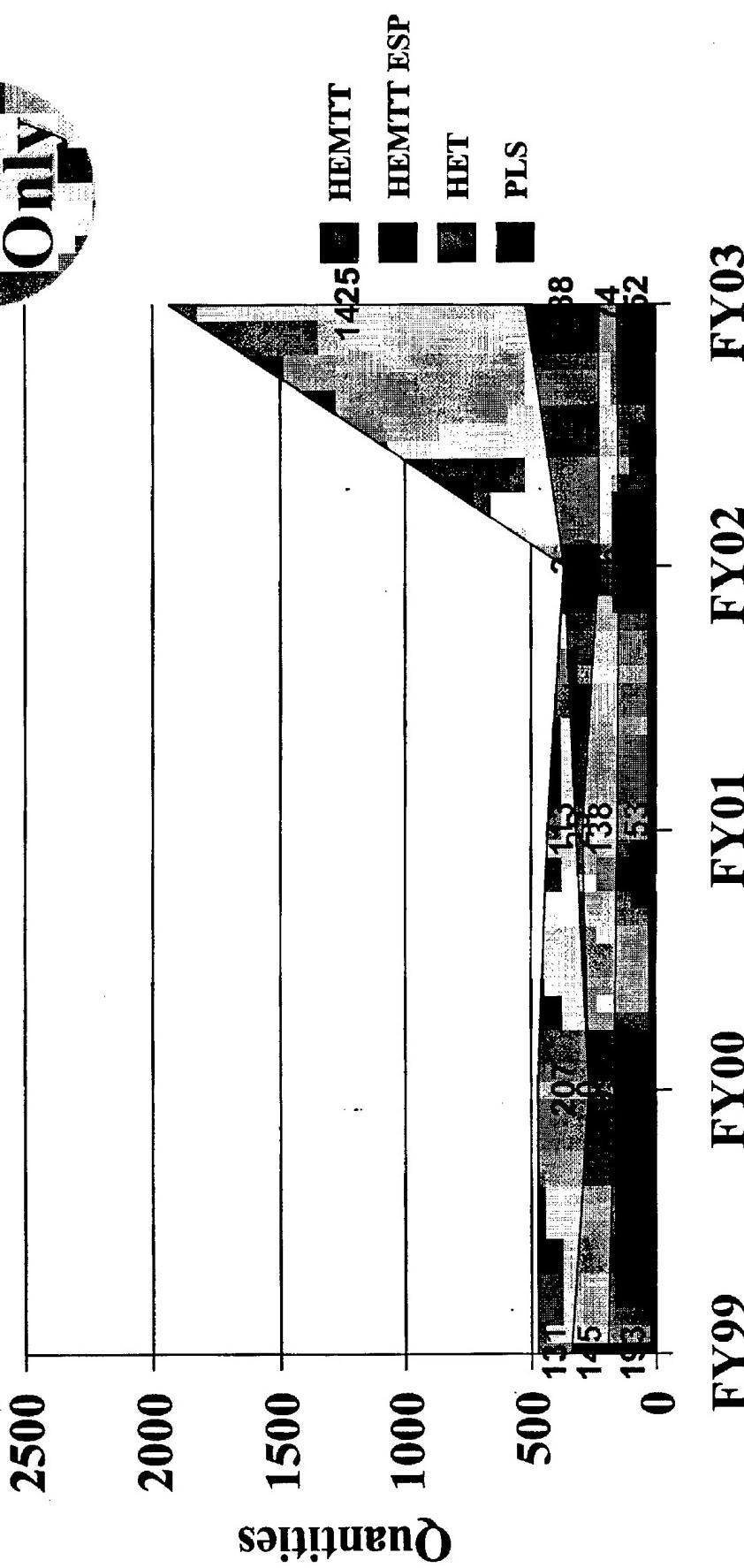
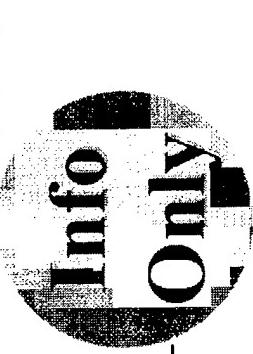
Goal 5%

59/55

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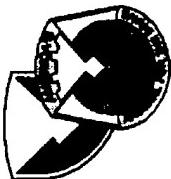
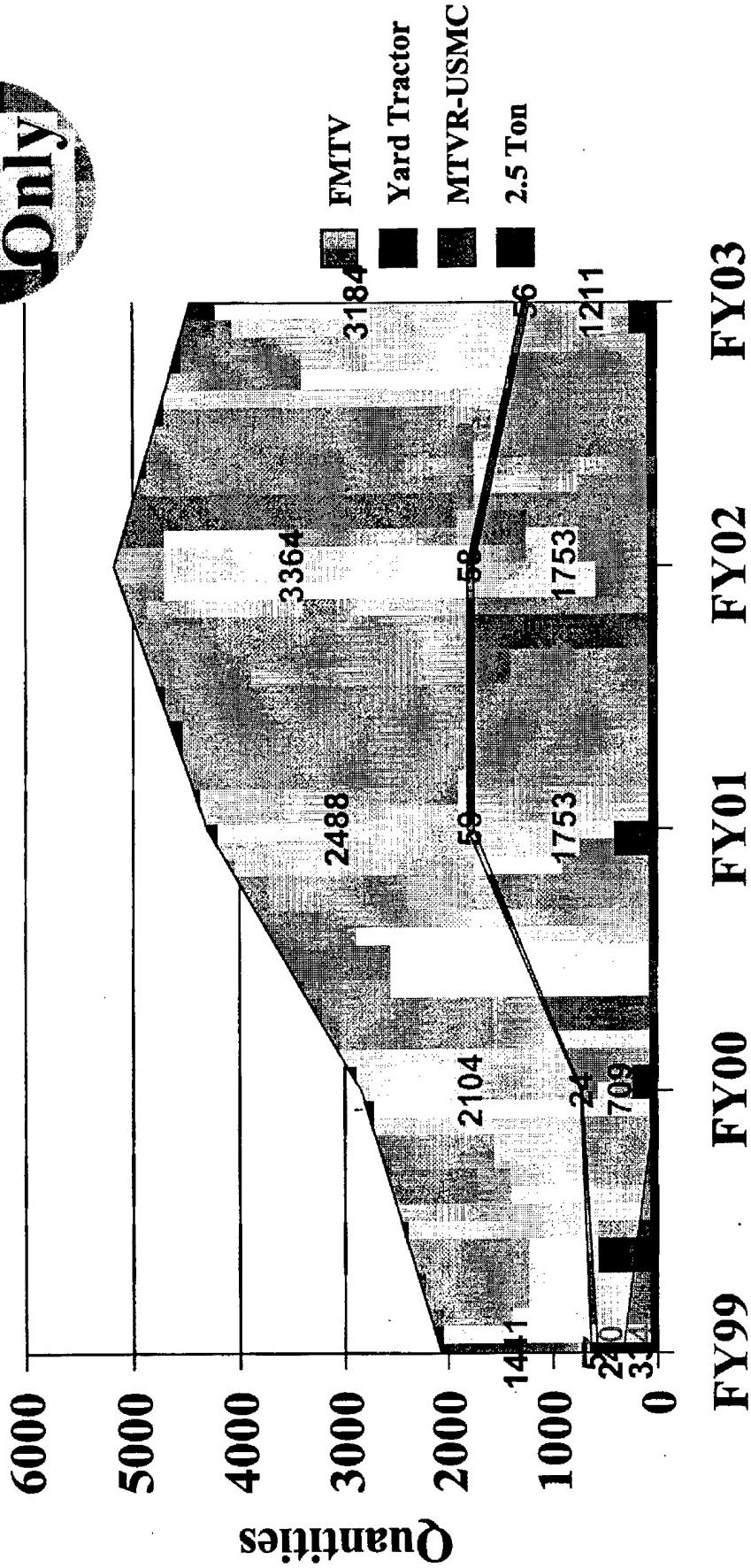
2/2/99

# Heavy Tactical Wheeled Vehicles Production/ESP



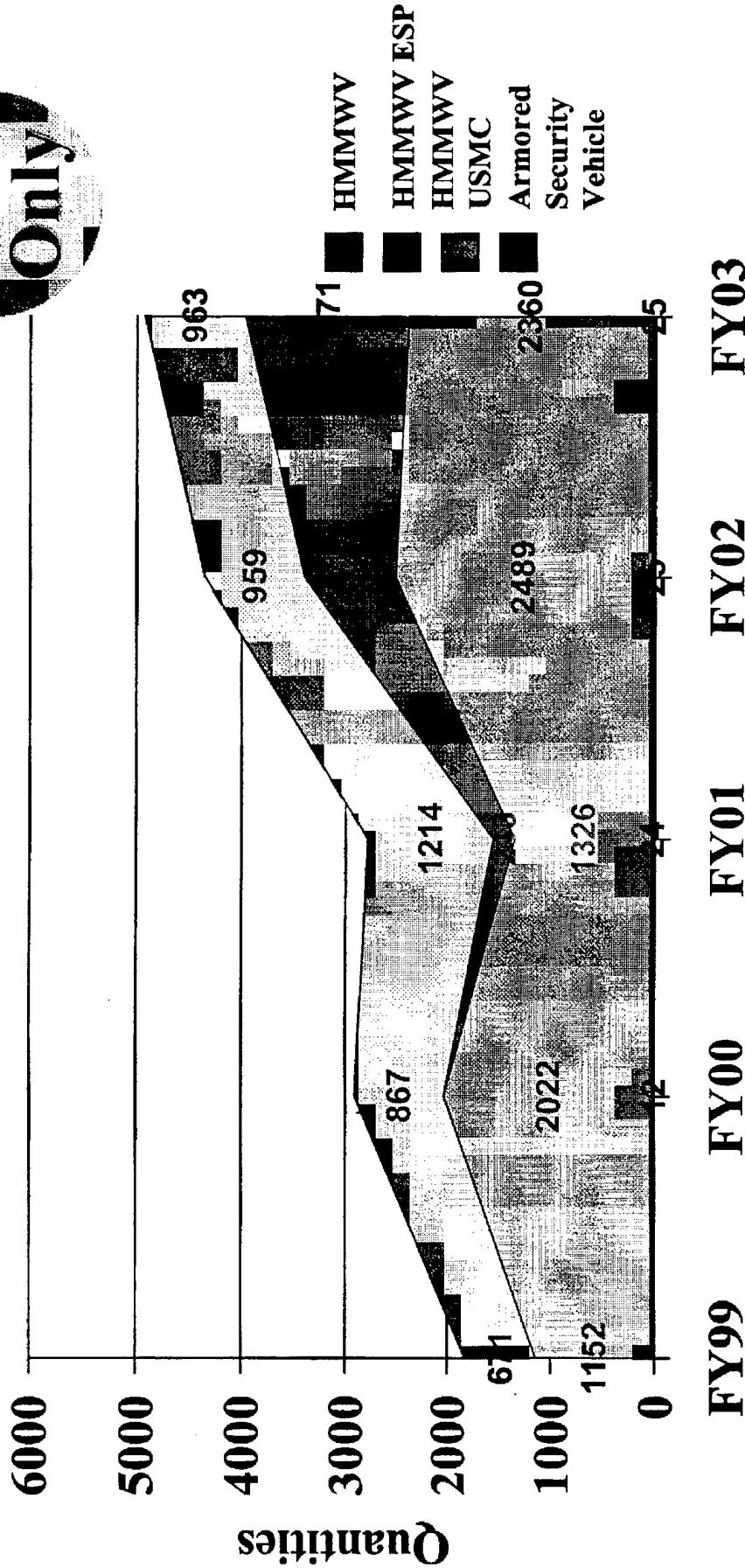
# Medium Tactical Wheeled Vehicles Production/ESP

Info  
Only



# Light Tactical Wheeled Vehicles Production/ESP

Info  
Only

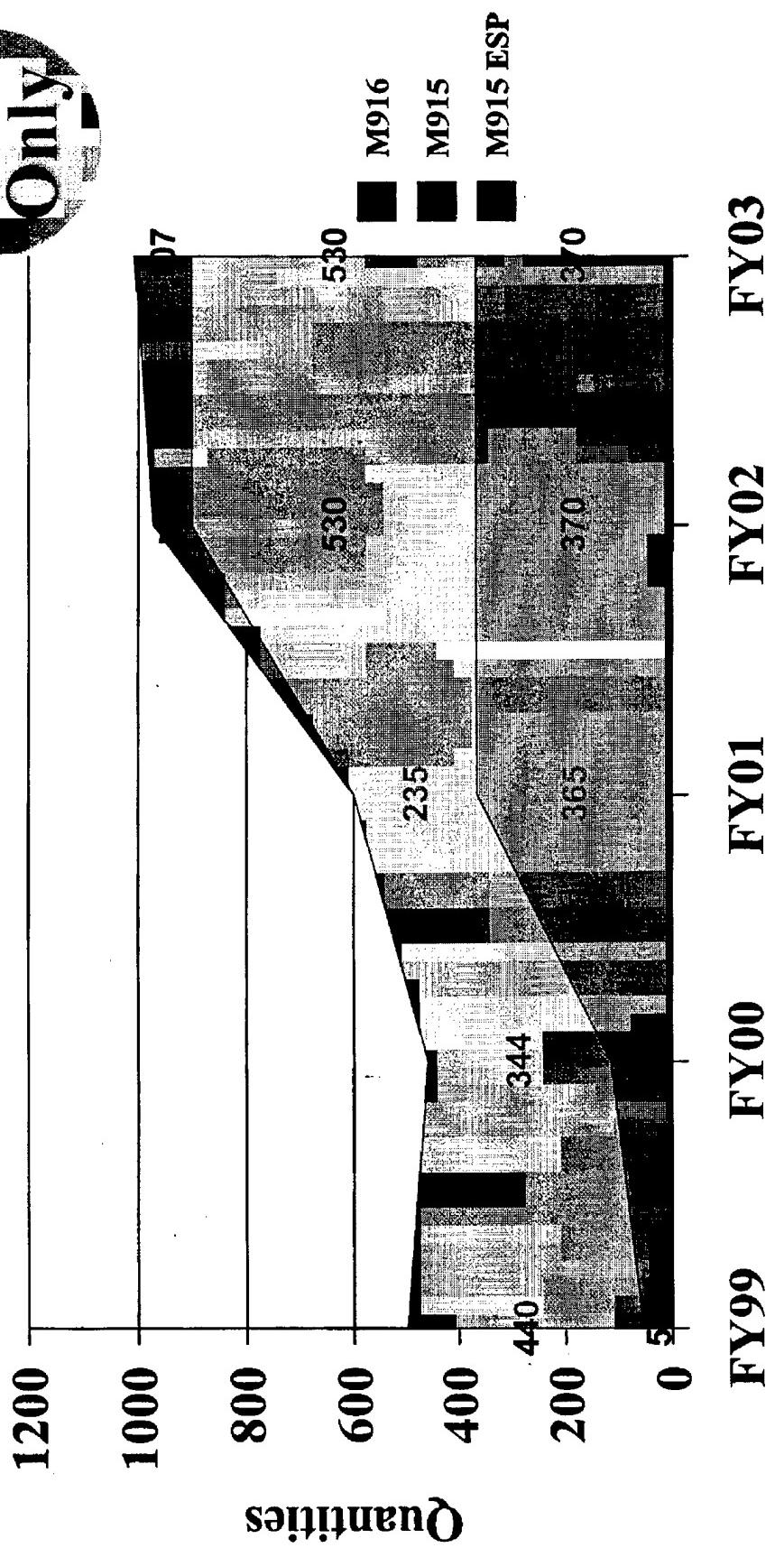


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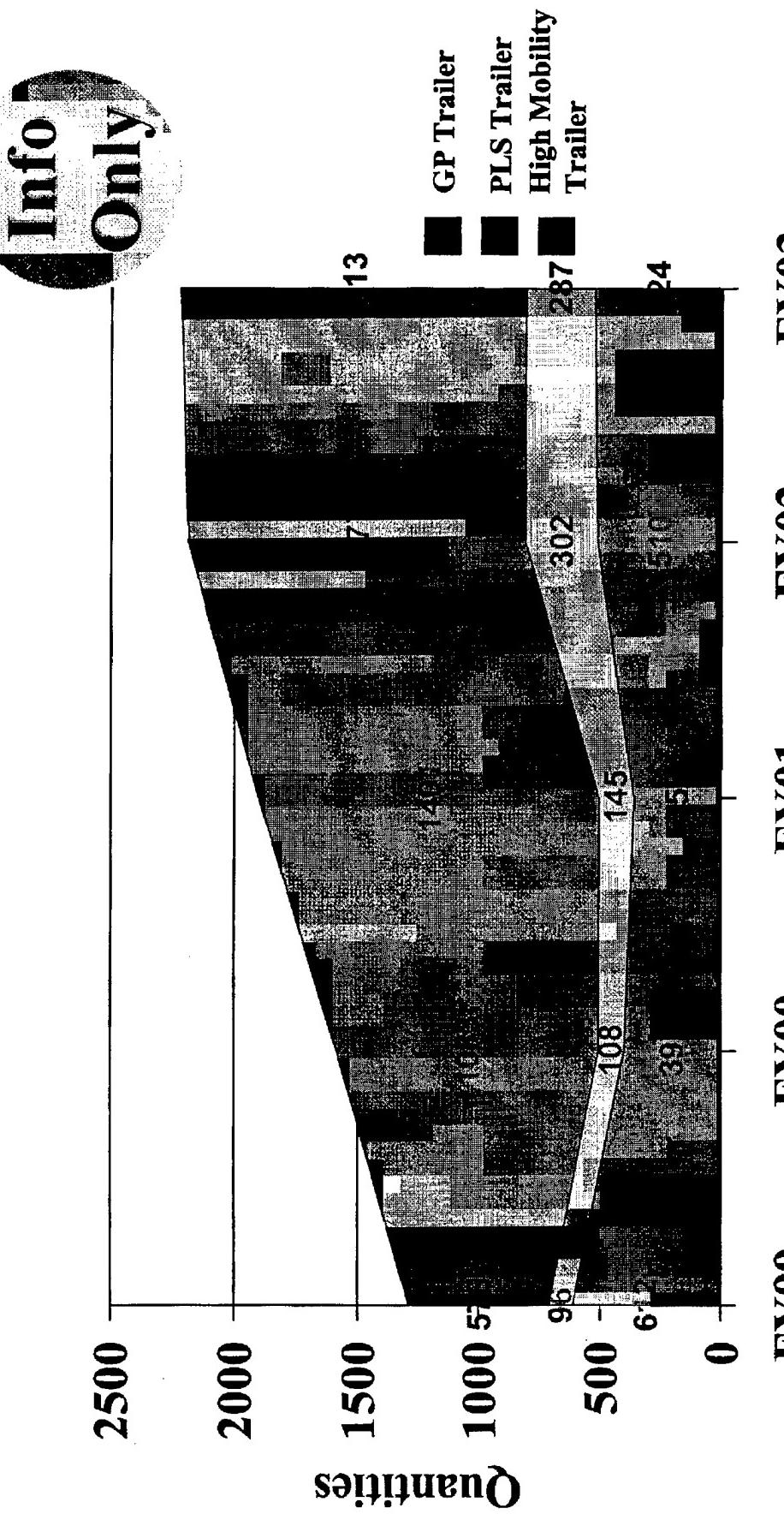
293

# Line Haul Trucks Production/ESP

Info  
Only



# Trailers Production/ESP

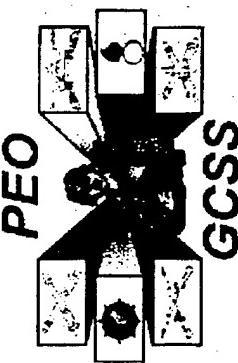


2/2/99

64/55

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301

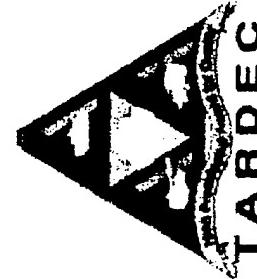


# TACOM / PEO-GCSS TWV PROGRAMS / ACTIVITY

NDIA TWV Conference

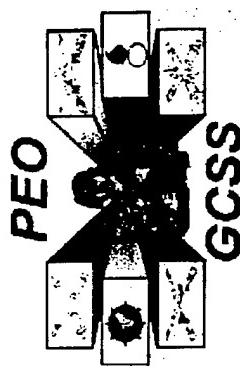
Monterey, California

2 February 1999





# TACOM / PEO-GCSS Speakers

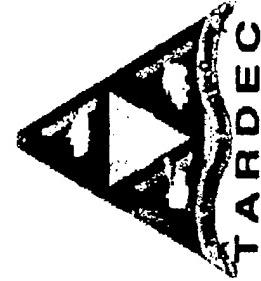


**Mr. Jerry Chapin - Director, TARDEC**

**Mr. Dan Mehney - Deputy, TACOM Acquisition Center**

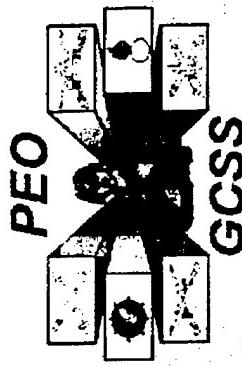
**Mr. Al Puzzuoli - Deputy, PEO-GCSS**

**COL(P) John Urias - Deputy, Systems Acquisition  
(Deputy for Life Cycle Mgt.)**





# TACOM / PEO-GCSS Topics

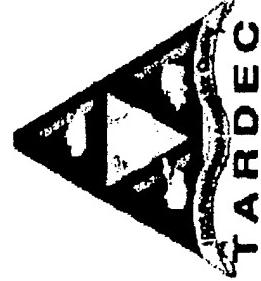


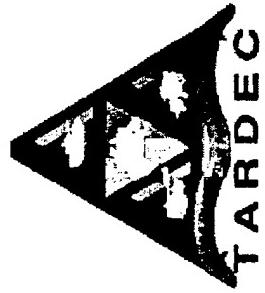
Organizations and Responsibilities

Procurement and Production

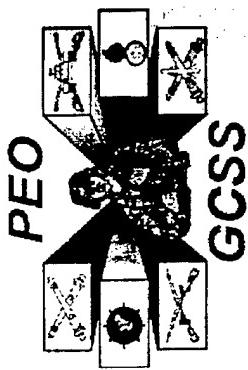
Sustainment

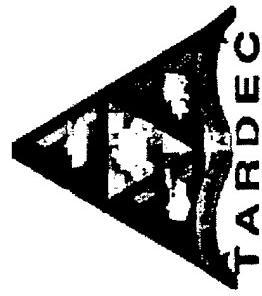
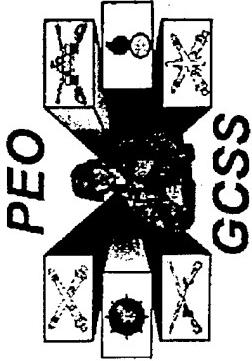
Emerging Systems and Technologies





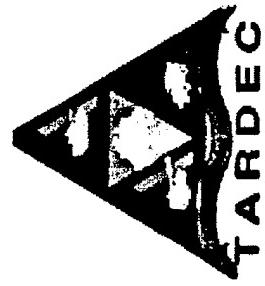
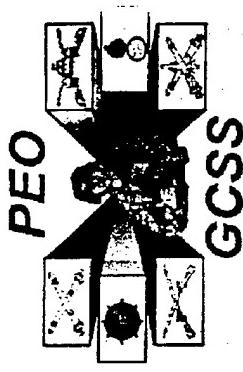
# *Organization & Responsibilities*



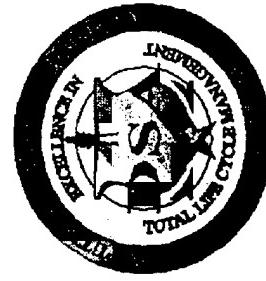


# *Procurement & Production*

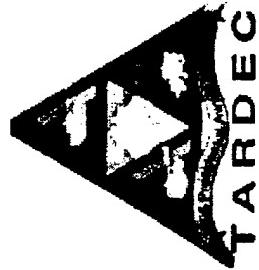
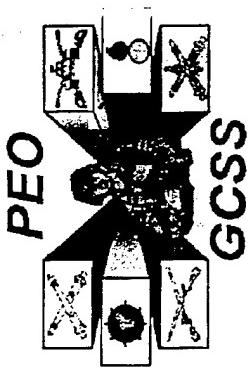




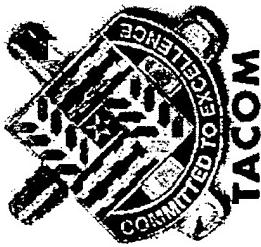
# Sustainability



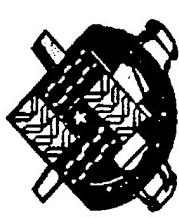
307



# *Emerging Systems & Technologies*

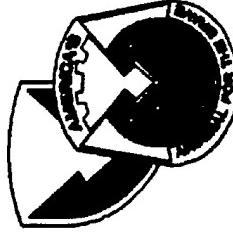


303

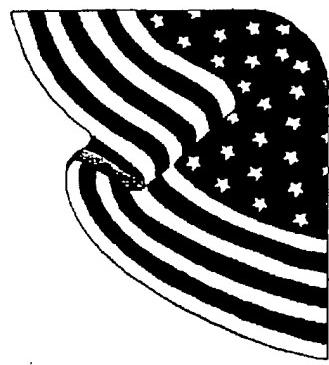


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for America's Army*



# 1999 Tactical Wheeled Vehicle Conference



1-2 February 1999

Jerry L. Chapin  
Director

Tank Automotive Research,  
Development and Engineering Center

Tank-automotive & Armaments COMmand

3697

# TARDEC'S Organization



Operations  
Exec VP

Mr. Gregory Schmittling

Systems & Technology  
Integration Exec VP  
COL Michael Asada

Research

Exec VP

Dr. Richard McClelland

TARDEC  
Director

Mr. Jerry L. Chapin

Development  
Exec VP

Mr. Walter Wynbelt

Virtual Prototyping

Exec VP

Mr. Art Adlam

National Automotive

Center

Exec VP

Mr. Dennis Wend

Engineering  
Exec VP

Mr. Pandu Rao

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# TARDEC'S Mission

- Ground Combat Systems
- Combat Support Systems
- Combat Service Support Systems

E N G I N E E R I N G

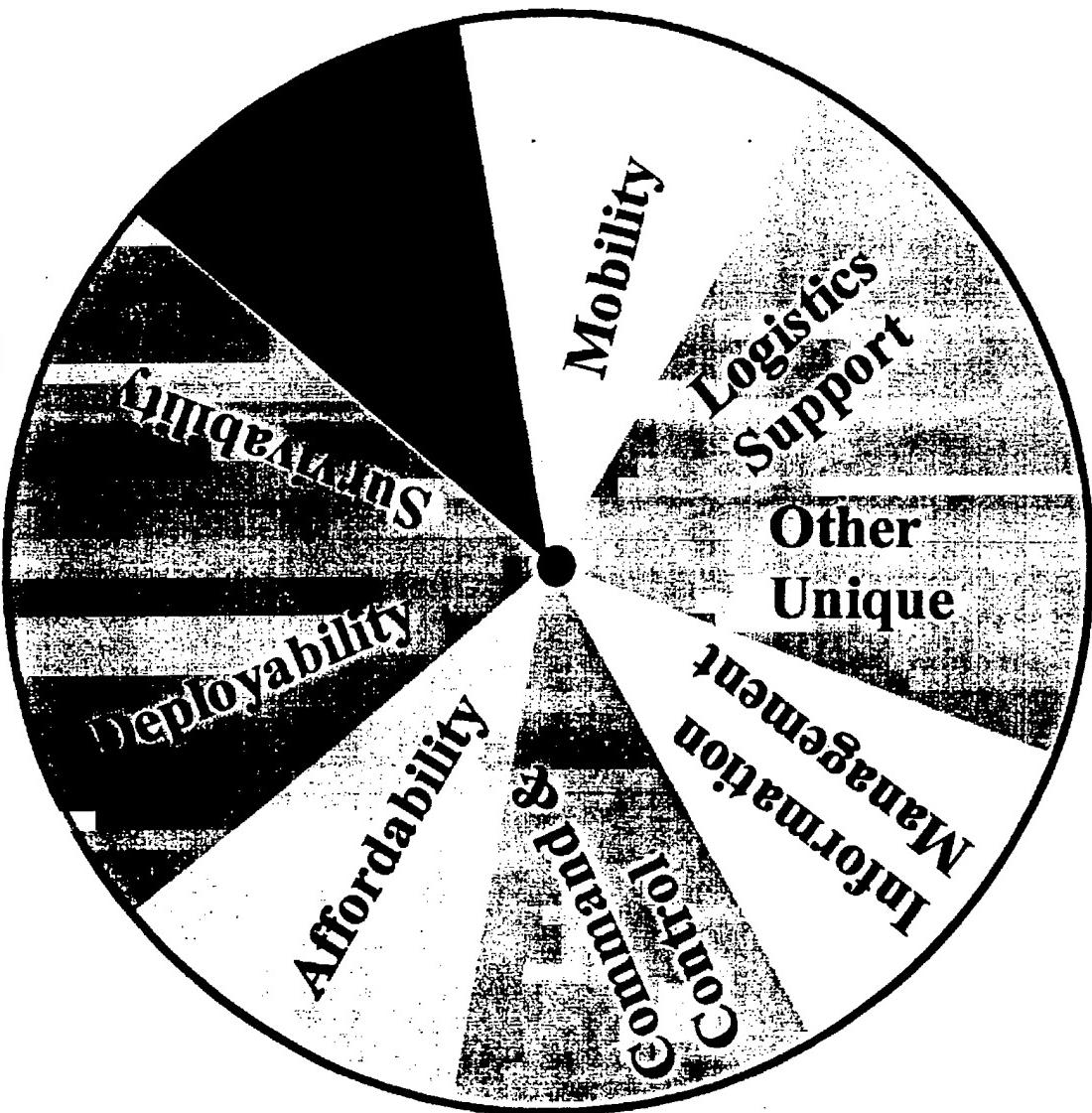
D E V E L O P M E N T

R E S E A R C H

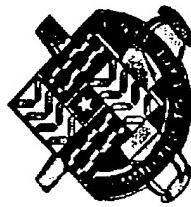
D E C H N O L O G Y  
D U A L - U S E

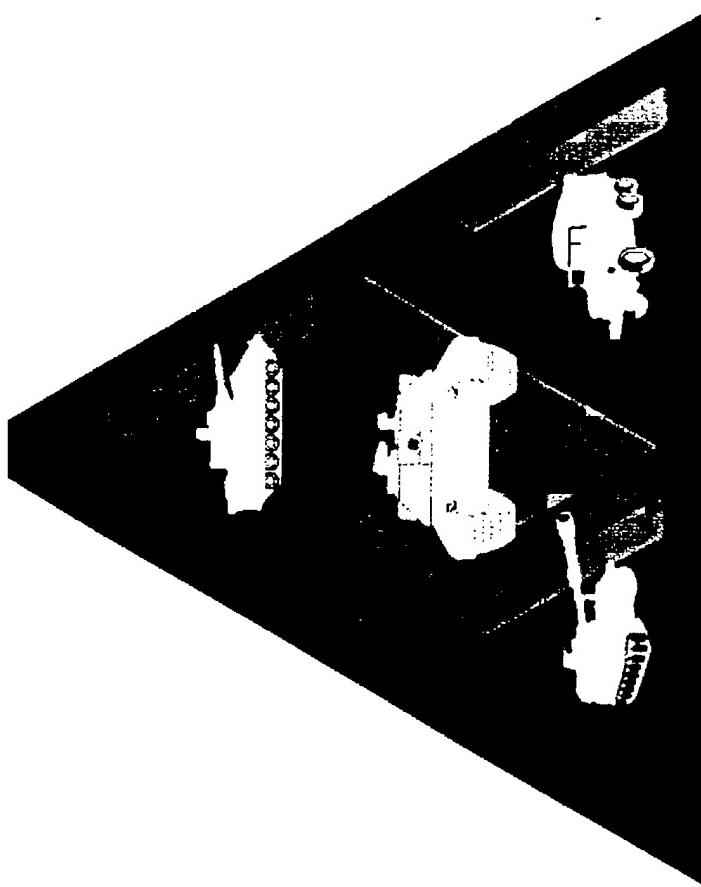
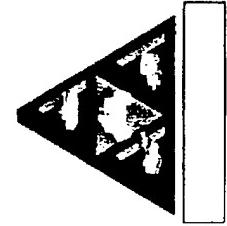
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# System's Integration



*Committed to Excellence*

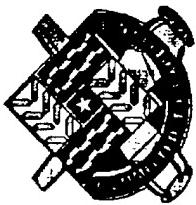


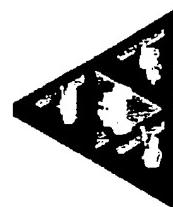


## TRADE

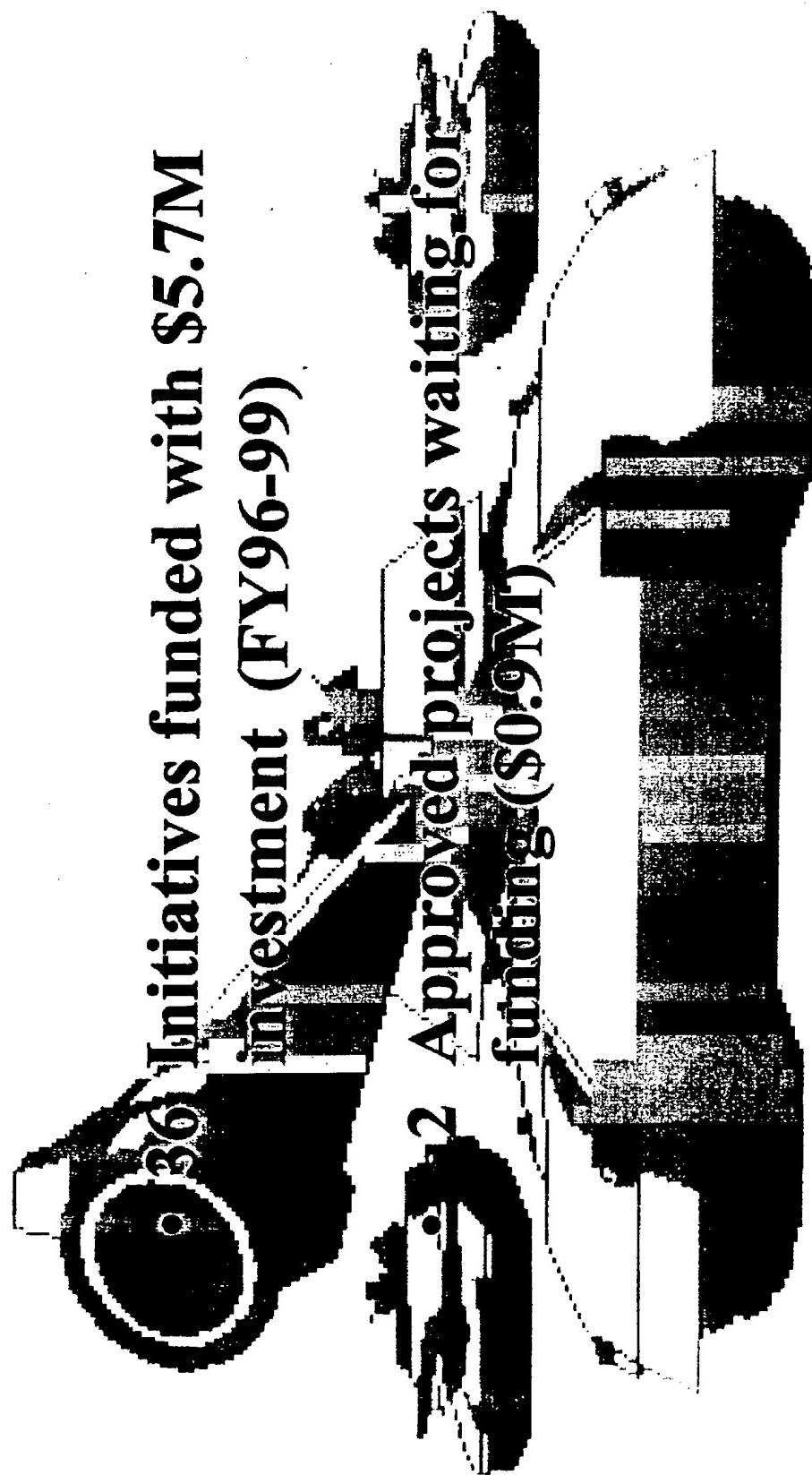
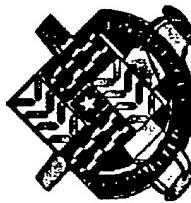
**Operation and Support Cost Reduction  
(OSCR)**

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# TACOM's SMA-OSCR Project/Funding Summary

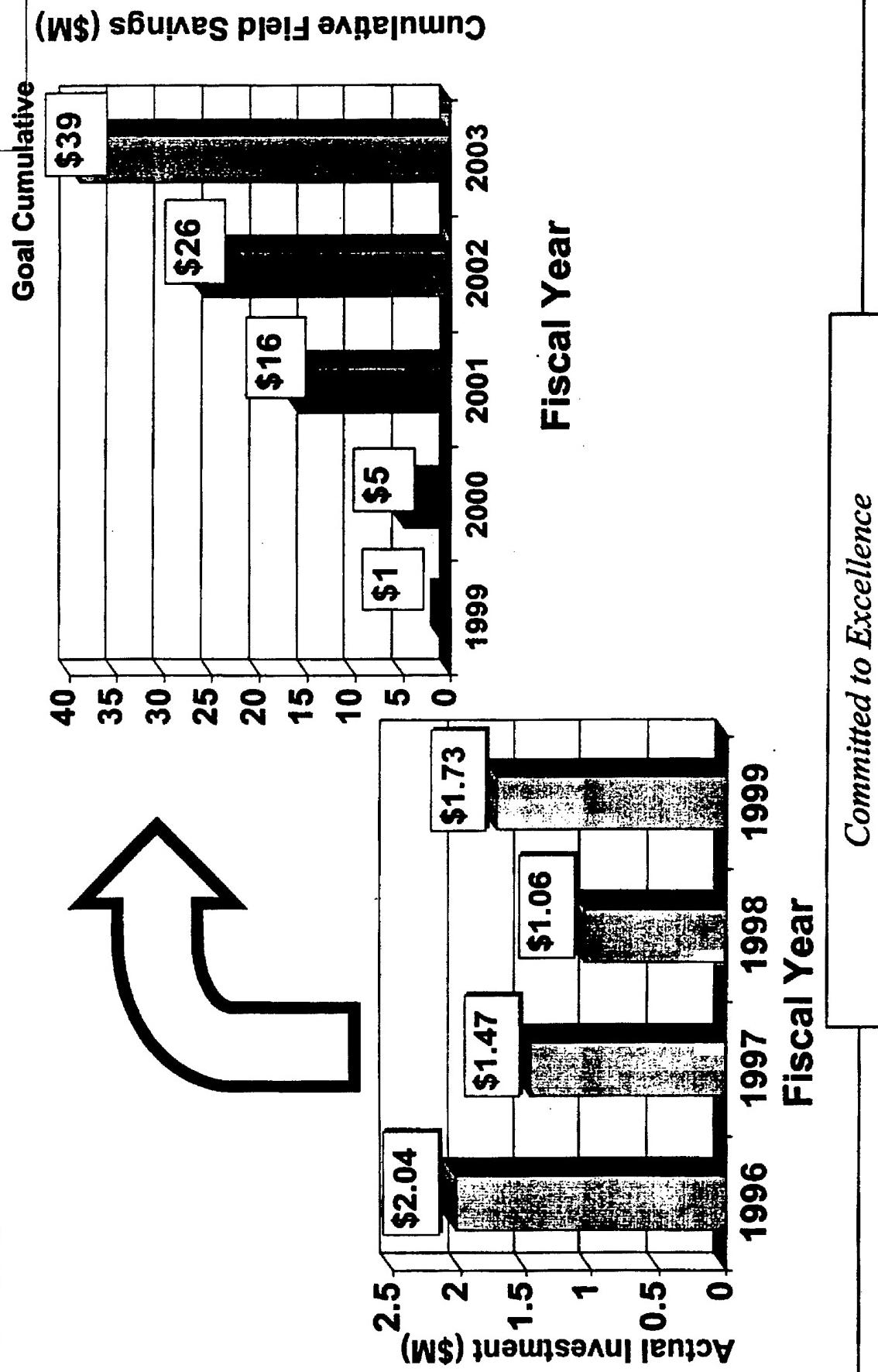


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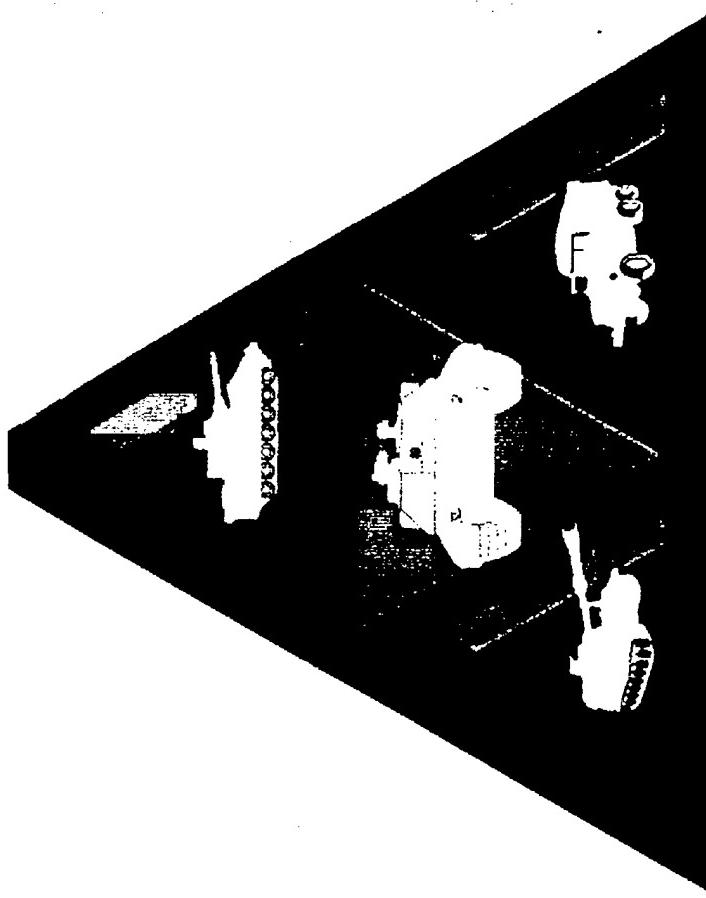
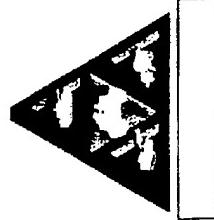


# TACOM OSCR PROGRAM

## INVESTMENT vs. SAVINGS



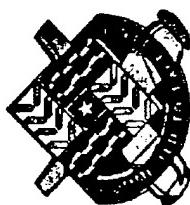
*Committed to Excellence*

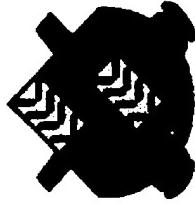


**T A R D E C**

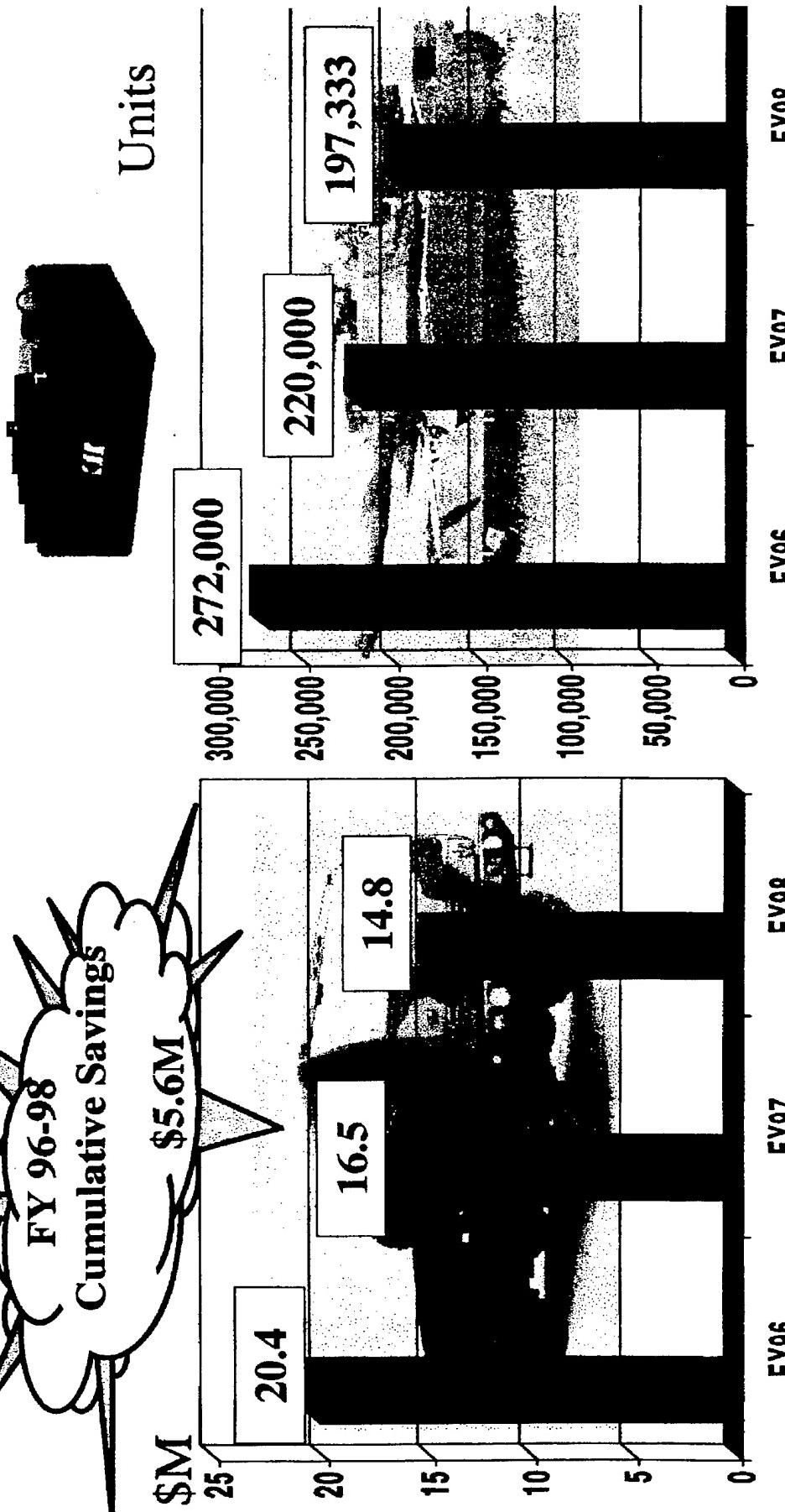
**Batteries**

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## Vehicle Battery Consumption

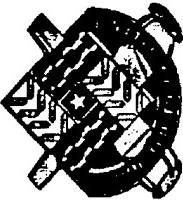


FY98

FY97

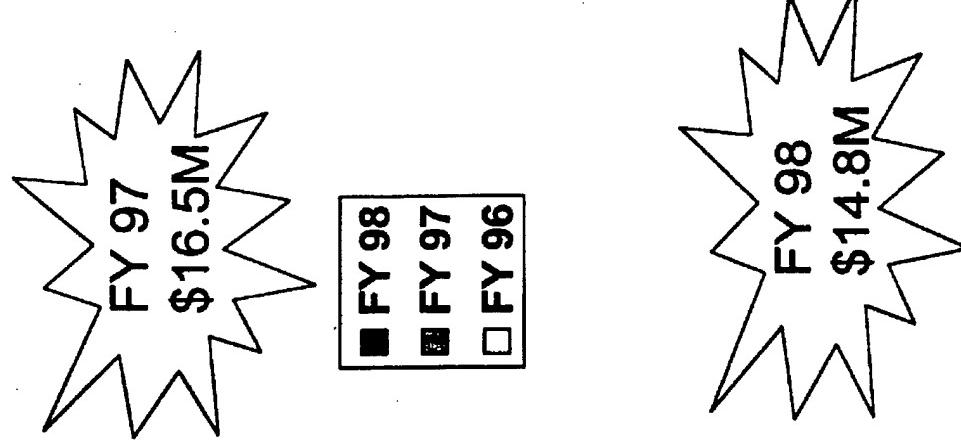
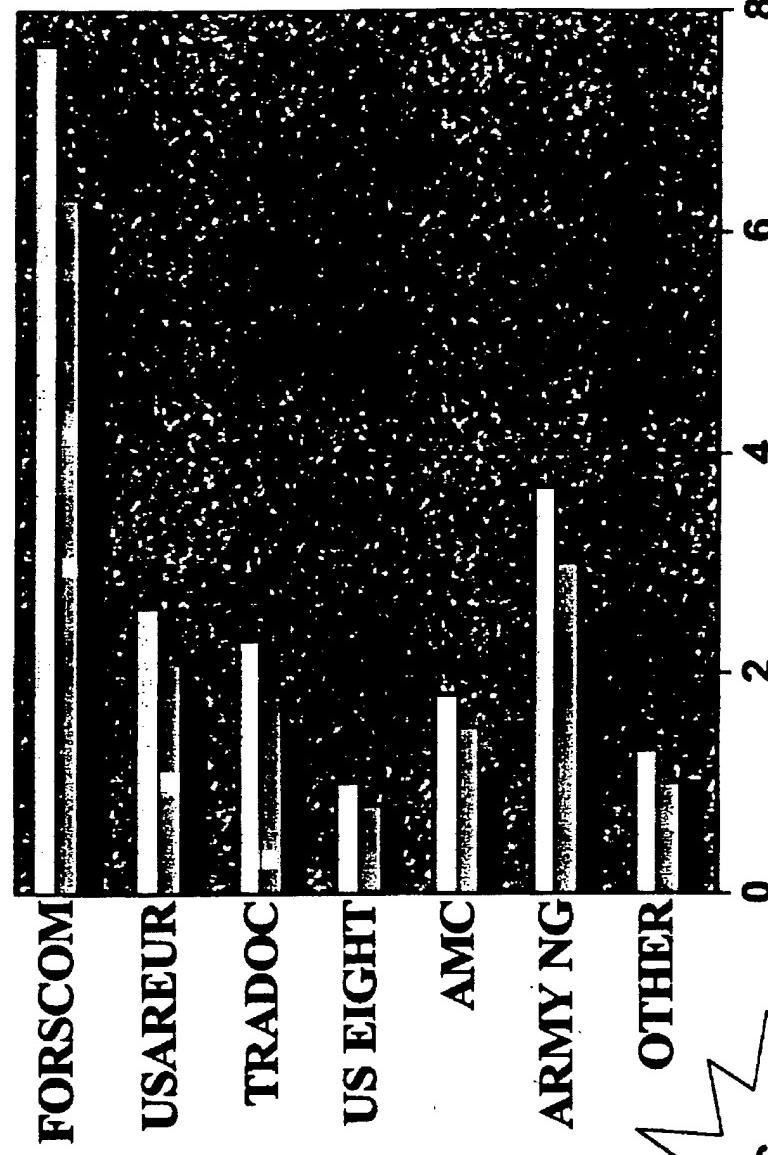
FY96

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## Vehicle Battery Consumption

( $\$M$ )

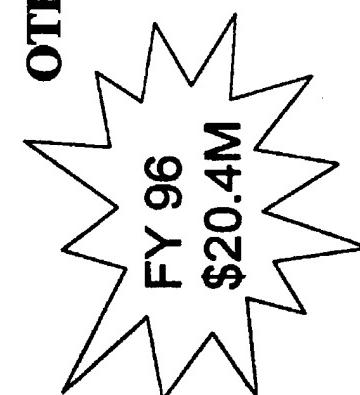


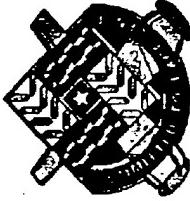
■ FY 98  
■ FY 97  
□ FY 96

8  
6  
4  
2  
0

Cumulative Cost Avoidance \$5.6M

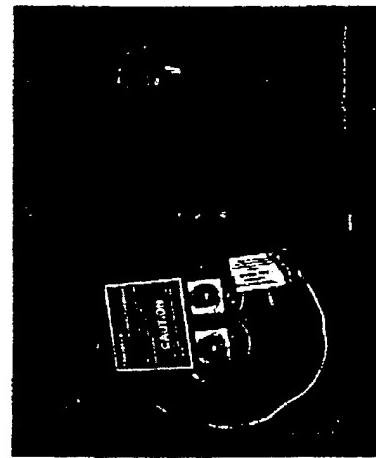
*Committed to Excellence*



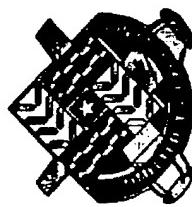
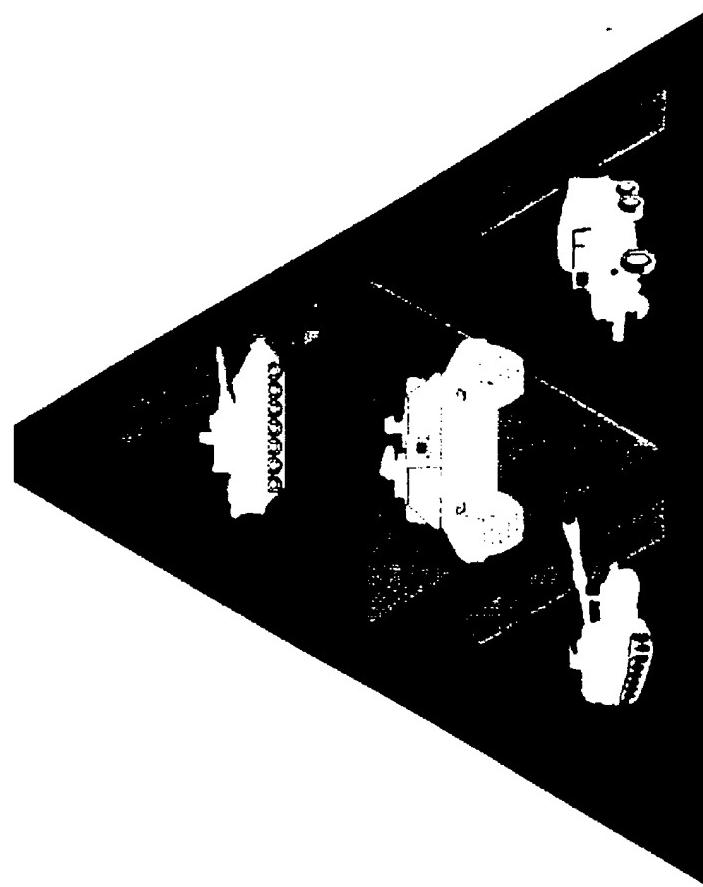
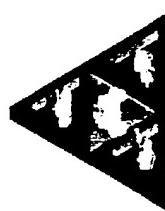


# TACOM's Battery Management Program

- Awareness
  - Maintenance
  - Equipment
  - Recovery
- Advanced Technology
  - Current
    - Solar Panels
    - Maintenance Free Batteries
    - Battery Maintainers/Chargers
  - Future
    - Smart Batteries
    - Ultra Capacitors
    - Advanced Battery Design
    - Fuel Cells



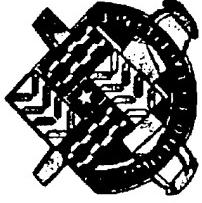
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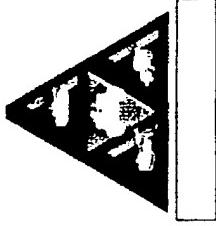
**T A R D E C**

# Waste Oil Reutilization

*Committed to Excellence*



# Waste Engine Oil Reutilization



- **Need:** Reduce military costs associated with used/waste oil.

- **Objective:** Develop environmentally friendly, low cost used engine oil disposal system that recovers used oil energy for vehicle use (with savings of one gallon of used oil recovered equals one gallon of JP-8 saved).

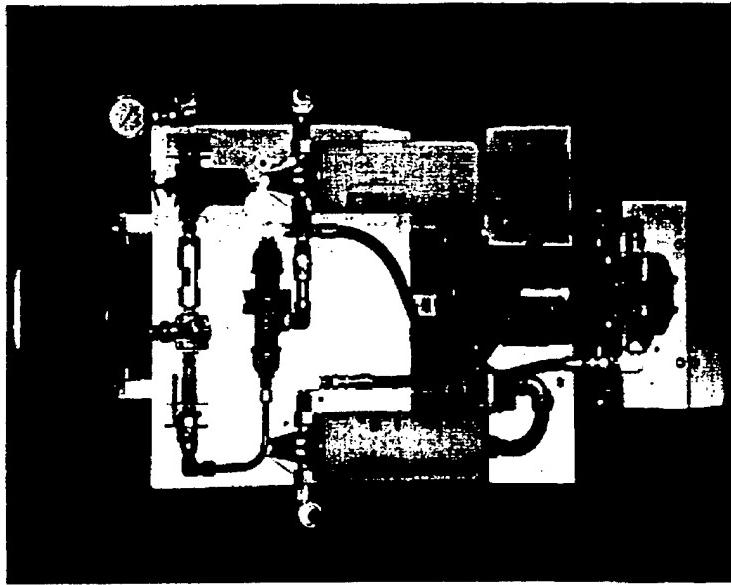
- **Concept:** Blend proportioned amounts of used vehicle crankcase oil and JP-8 fuel at regular oil change intervals, returning mixture to vehicle fuel tank.

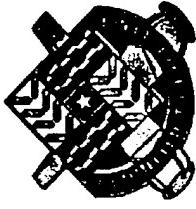
- **Technology:** Filtration/blending system

- **Key Points:**

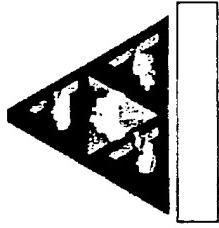
- Will meet EPA emission standards.
- No degradation of vehicle components or performance.

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# Waste Engine Oil Reutilization



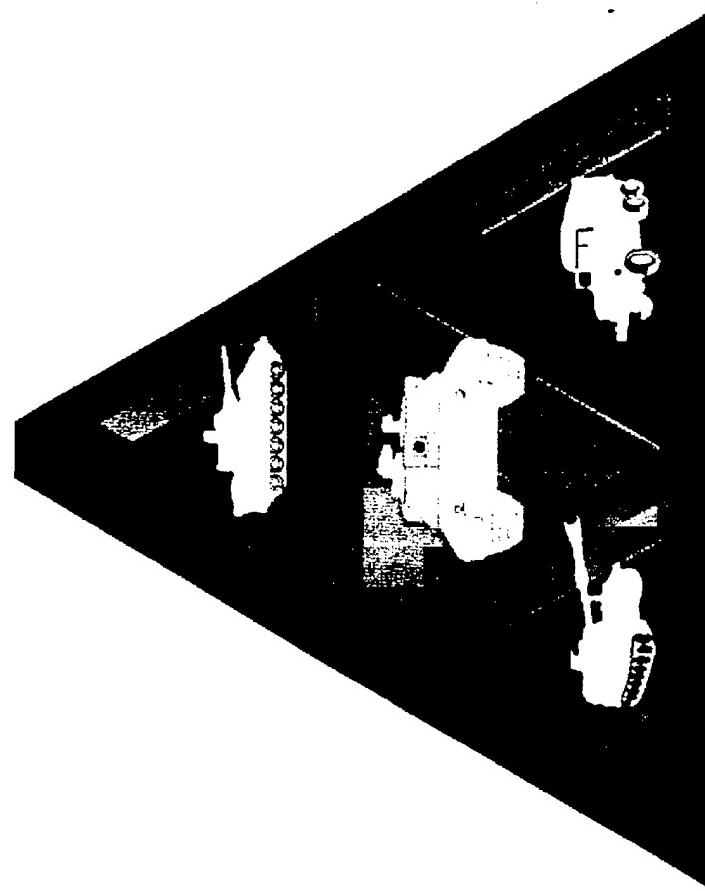
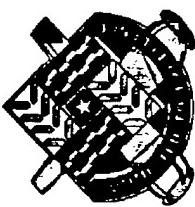
- **Test Results:**

- Emissions test results at Southwest Research Institute fell below EPA ceilings on HMMWV and DD series 60 engines.
- Durability test results at TARDEC Fuels and Lubricants Research Facility showed little or no performance degradation in 6.2L and 6V53T engines.
- 6 month field demo at National Training Center, Ft Irwin, CA completed without any degradation of vehicle performance

- **Current Status:**

- Two (2) Blenders are being provided to each of the following:  
National Training Center (NTC) - Fort Irwin; CA, Fort Polk, LA and; Fort Lewis, WA.
- Blenders are to be provided to the Soldiers/Users for evaluation and feedback.

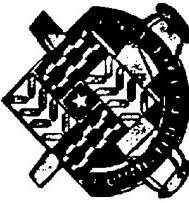
*Committed to Excellence*



T A R D E C

21st Century Truck

*Committed to Excellence*



# 21st Century Truck Initiative Government/Industry Partnership

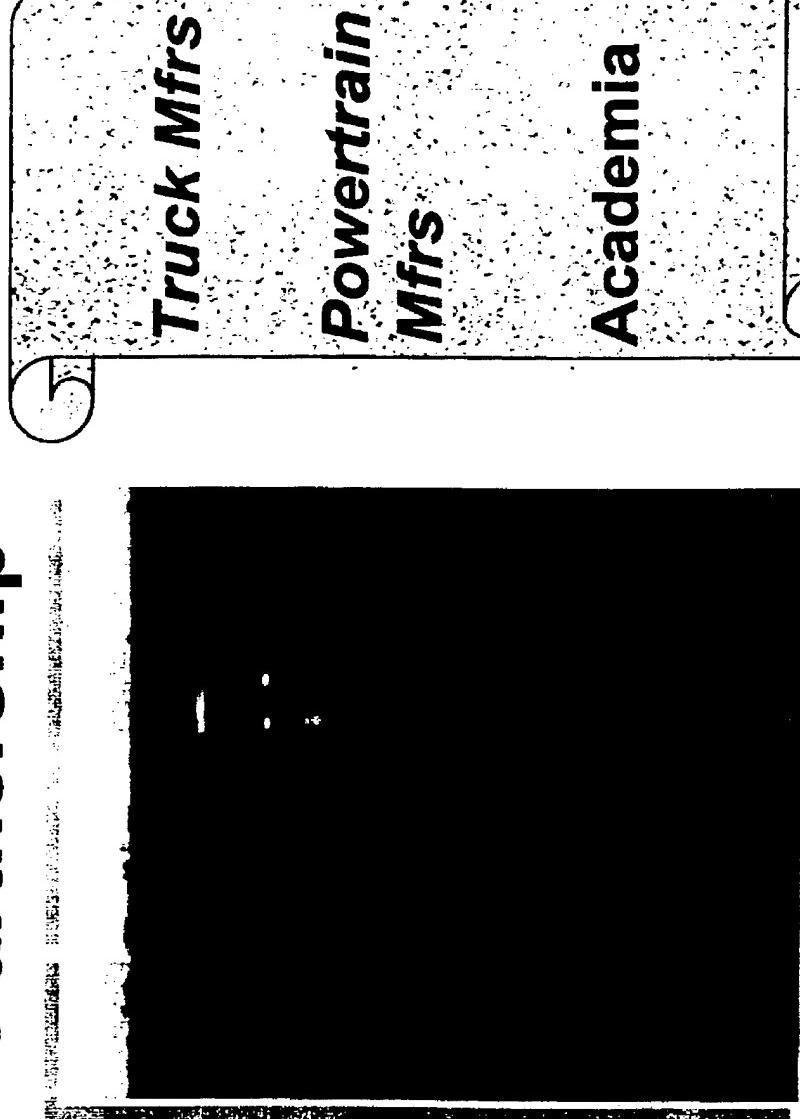
DOE

DOD

DOE

DOT

EPA

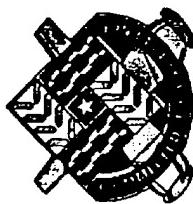


Truck Mfrs

Powertrain  
Mfrs

Academia

Committed to Excellence

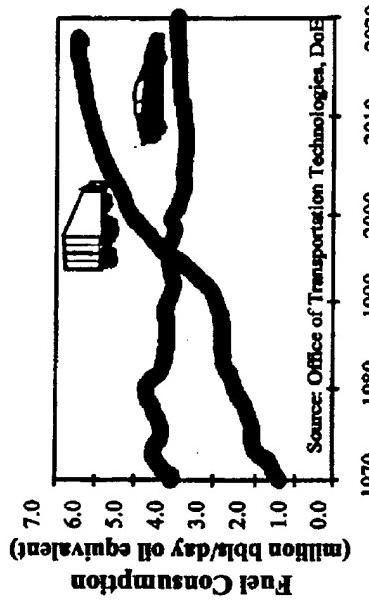
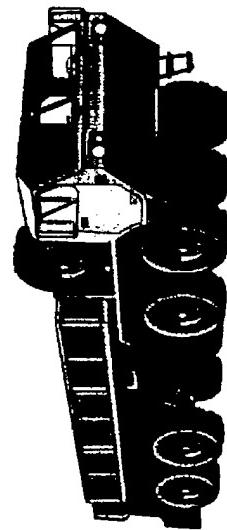


## 21st Century Truck Initiative

# Trucks are Vital to the Army and to the Country

**Trucks Provide the Logistical  
Backbone to the Army**

**Trucks Account for Over 75% of  
the Nation's Freight Business**



**Fuel constitutes 70% of bulk  
tonnage needed to sustain a military  
force on the battlefield. This  
equates to about 600,000 gallons per  
day.**

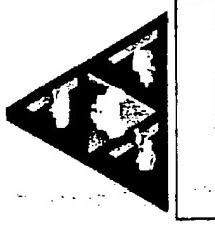
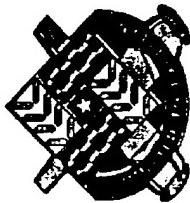
-Fuel Efficient AAN Task Force

**Army After Next Goal:**

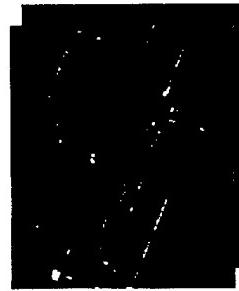
**“...75% Reduction in Fuel Requirements for a Deployed Force...”**

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# 21st Century Truck Initiative Goals



- **Economic “leap-ahead” vehicle**
  - Increase fuel efficiency
  - Reduce cost of operation
  - Increase power generation performance
- **Environmentally friendly vehicle**
  - Reduce emissions
  - Reduce damage to infrastructure
- **“Smart” truck for safety and security**
  - Integrate new Vtronics and data bus technology
  - Develop user friendly information and navigation to increase driver awareness/alertness



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## 21st Century Truck Initiative

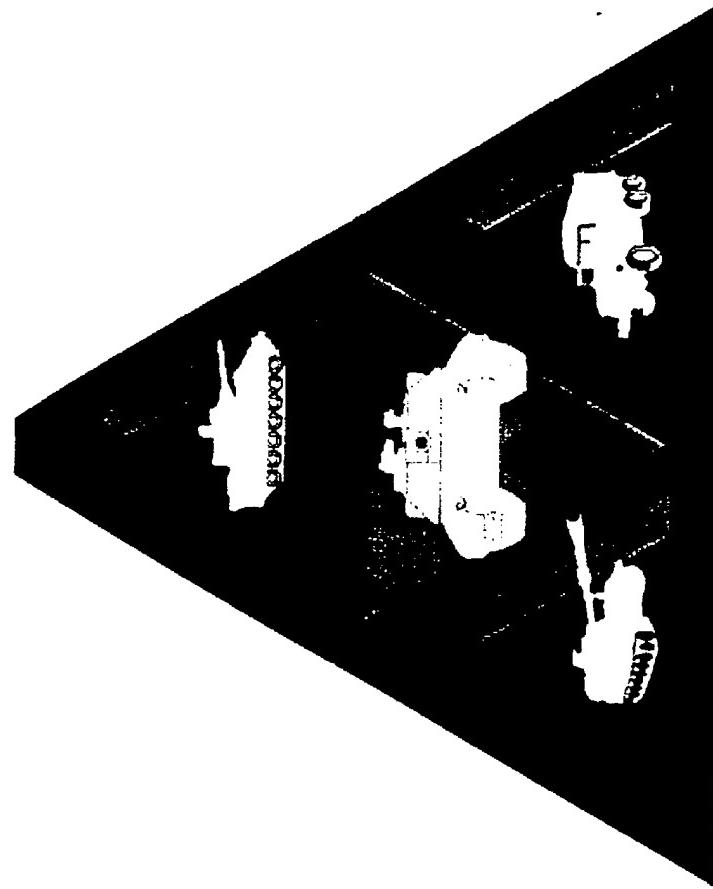
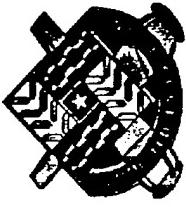
### NAC Programs

- Optimized Motor and Motor Controller (*ISE Research*)
- Soft - Switching Inverter (*General Motors*)
- Parallel Hybrid Electric Class 8 Linehaul Tractor (*Radian*)
- Series Hybrid Electric FMTV (*Lockheed Martin Control Systems*)
- Diesel Reformer Fuel Cell Hybrid (*Sunline Services Group*)

### Other Initiatives

- Hybrid Electric HMMWV (*PEI*)
- Hybrid Electric M113 (*UDLP*)
- Hybrid Electric BFVS (*UDLP*)

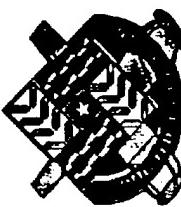
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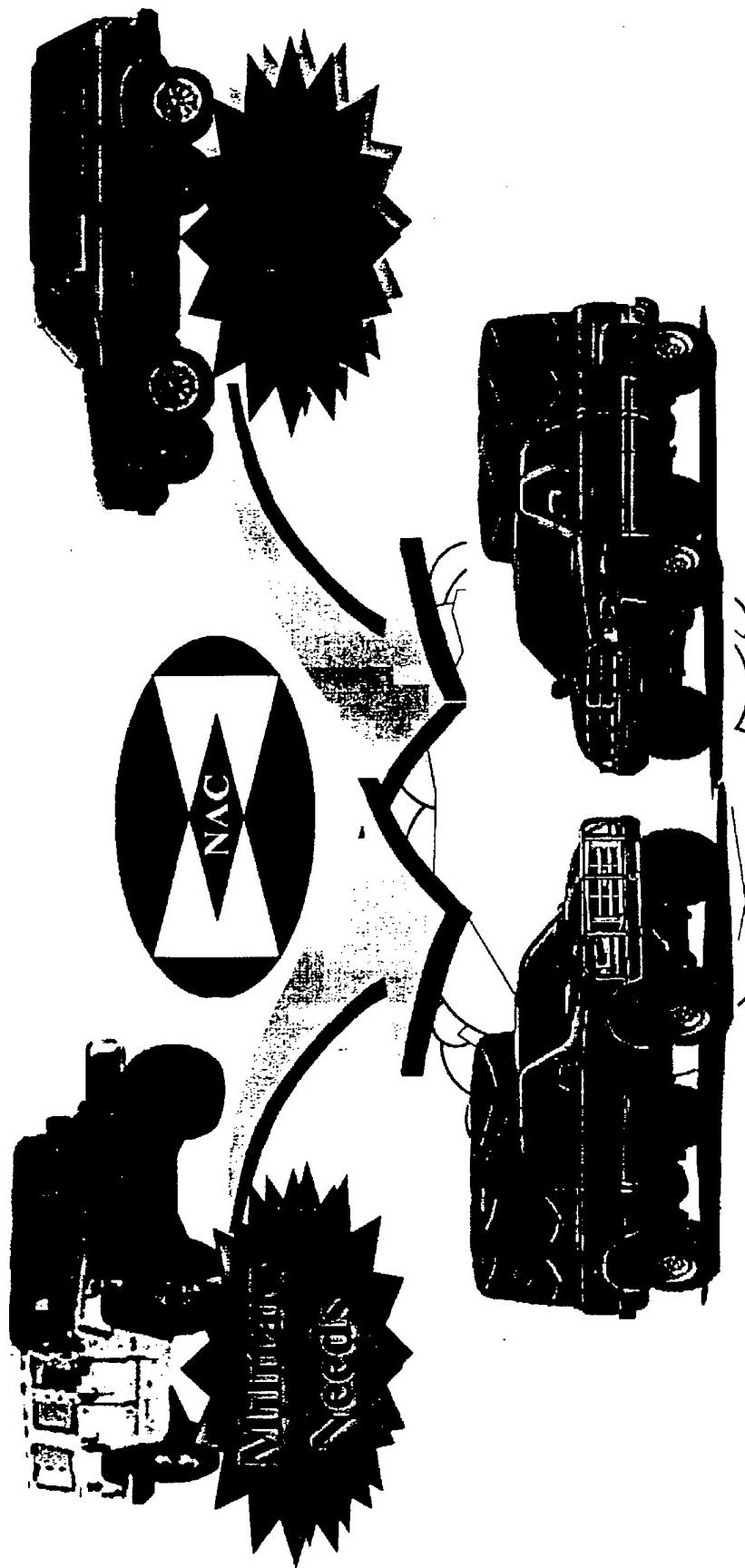
# T A R D E C

**Commercially Based Tactical Truck  
(COMBAT)**

*Committed to Excellence*

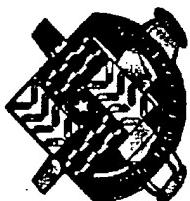


## *Commercially Based Tactical Truck (COMBATT)*



**HMMWV Requirements for the 21st Century**

*Committed to Excellence*



# Two Part Program

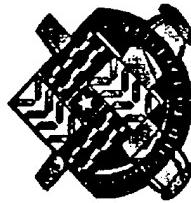
## 1. Modify Ford F350 and Dodge Ram Trucks

- WHY - Enhance performance in military environment
  - » Increase off road mobility especially in soft soil conditions
  - » Increase to 4,550 lb payload
  - » Militarize (black out lights, camouflage paint, personal weapon mounts, tie downs/lifting eyes, antennae mounts)
  - » Take advantage of current electronics and enhance as needed

## 2. Modify HMMWV with New Technology

- WHY - Insertion into HMMWV Remanufacture Program
  - » Enhance safety
  - » Increase reliability
  - » Reduce Operational and Support (O&S) costs
  - » Insert new electronics

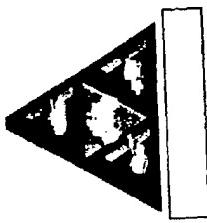
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# COMBATT Highlights

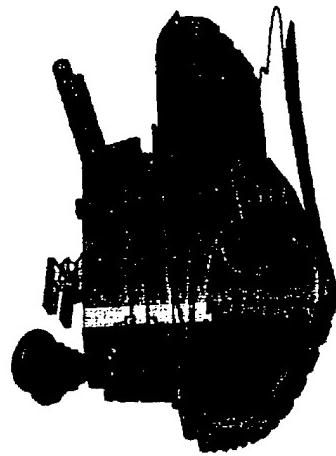
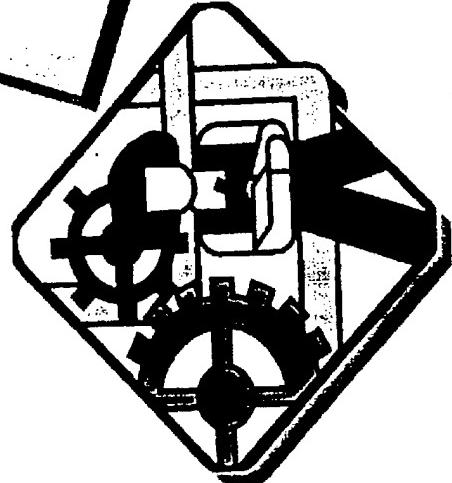
- Four phase program over 2 years
  - Requirements planning and analysis
  - Design to requirements
  - Build to design
  - Demonstration and evaluation
- Demonstration
  - Appropriately modified commercially based trucks can approach performance of HMMWV cargo troop carrier variant
- Approach:
  - Listen to the USER
  - Share engineering decisions with PM-LTV and original equipment manufacturers
  - Work with Army Testing Community (Actual and Simulated)
  - Waterways Experiment Station (Mobility)

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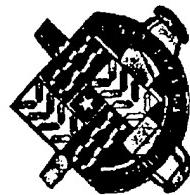
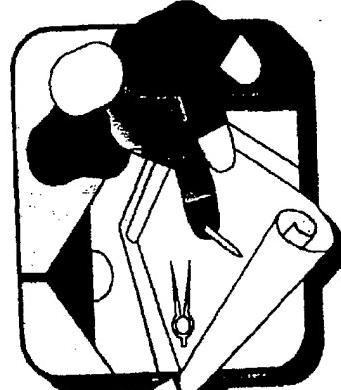


Salisbury

INDUSTRY

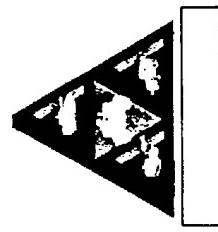


PARTNERSHIP



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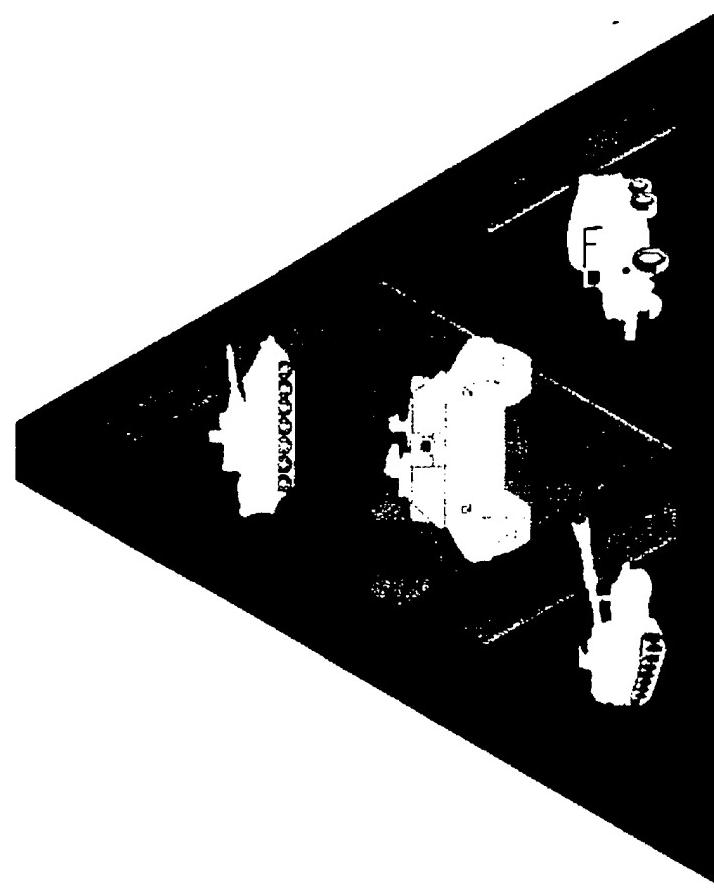
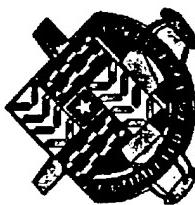
# Other Customers



- **MTL Services:**

- Has identified potential customers from:
  - US Departments of Justice, Treasury, Interior, Transportation, State and Local Law Enforcement
    - Germany and Great Britain
- Could influence production numbers/costs
- Informal working group of Federal agencies
  - TACOM will chair
    - May develop shared performance goals
    - May share costs

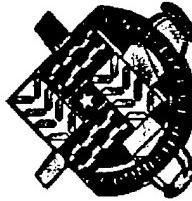
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T A R D E C

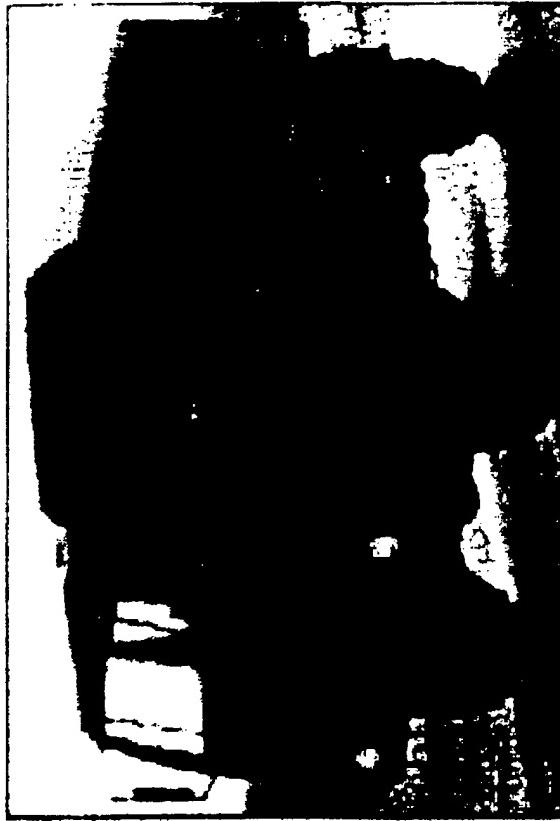
# Hybrid Electric Vehicles

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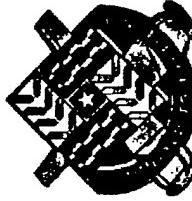
## Series Hybrid FMTV

- Need: FY99 AAN Technology short list includes hybrid power systems, fuel efficiency. AAN goal is to reduce fuel requirements 75% by 2025



- Objective: Demonstrate greatly improved FMTV fuel economy and performance using commercial hybrid electric drive system for medium vehicles.

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## Series Hybrid FMTV

- Description: Lockheed-Martin (LMCS) and Stewart and Stevenson will apply LMCS' commercial hybrid drive system for medium trucks (HybriDrive) to an M1078 Light Tactical Vehicle
- Benefits
  - Faster Acceleration
  - Improved Traction
  - Can supply mobile power
  - Fuel efficiency improved 50%
  - Reduced brake, axle and differential wear

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## Parallel Hybrid Line Haul Truck

- Need: FY99 AAN Technology short list includes hybrid power systems, fuel efficiency. AAN goal is to reduce fuel requirements 75% by 2025

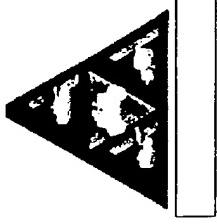


- Objective: Demonstrate greatly improved M915 fuel economy and performance using parallel hybrid electric drive system. Leverage off commercial Mack Truck application.

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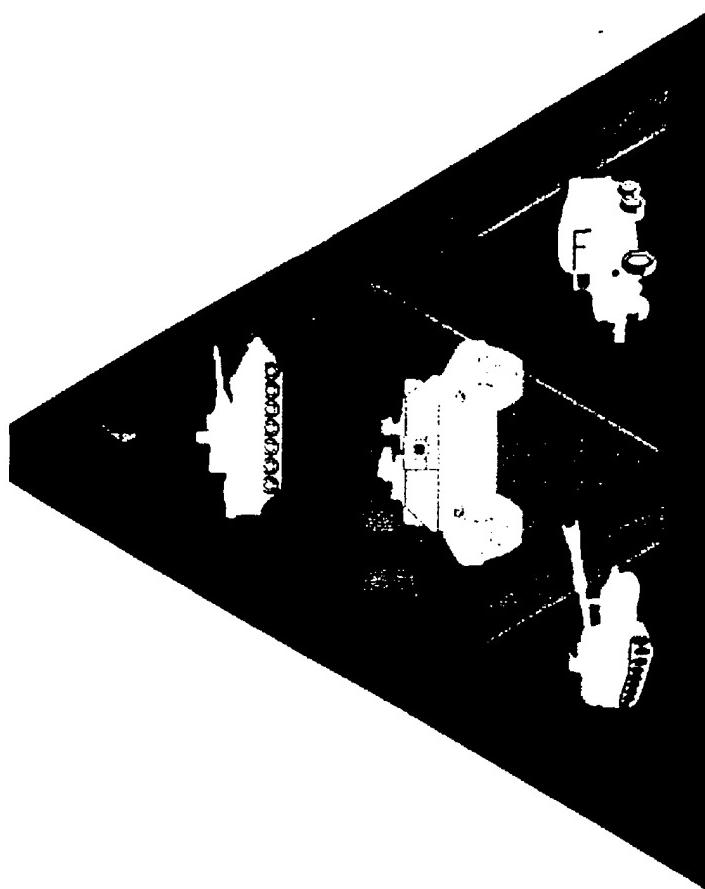
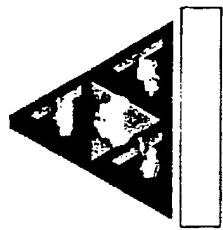


## Parallel Hybrid Line Haul Truck



- Description: RADIANT, Inc., with Lockheed Martin (LMCS) and Mack Truck, will develop a parallel hybrid electric drive train for a Mack CL series line haul truck chassis. The CL chassis is similar to the M915 Truck Tractor.
- Benefits
  - Faster Acceleration
  - Can supply mobile power
  - Fuel efficiency improved 50%
  - Reduced brake, axle and differential wear
  - Gradeability improved to meet M915 requirements in all climates

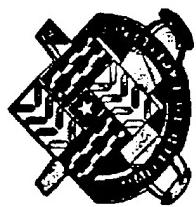
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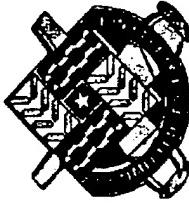
T A R D E C

Crew Protection

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333



# Crew Protection Kits for Operation Joint Endeavor



## Challenge:

Provide an immediate response to the requirement to protect Tactical Wheeled Vehicles against over 6 million mines & small arms fire.

## Requirement:

Protect the vehicle crews from:

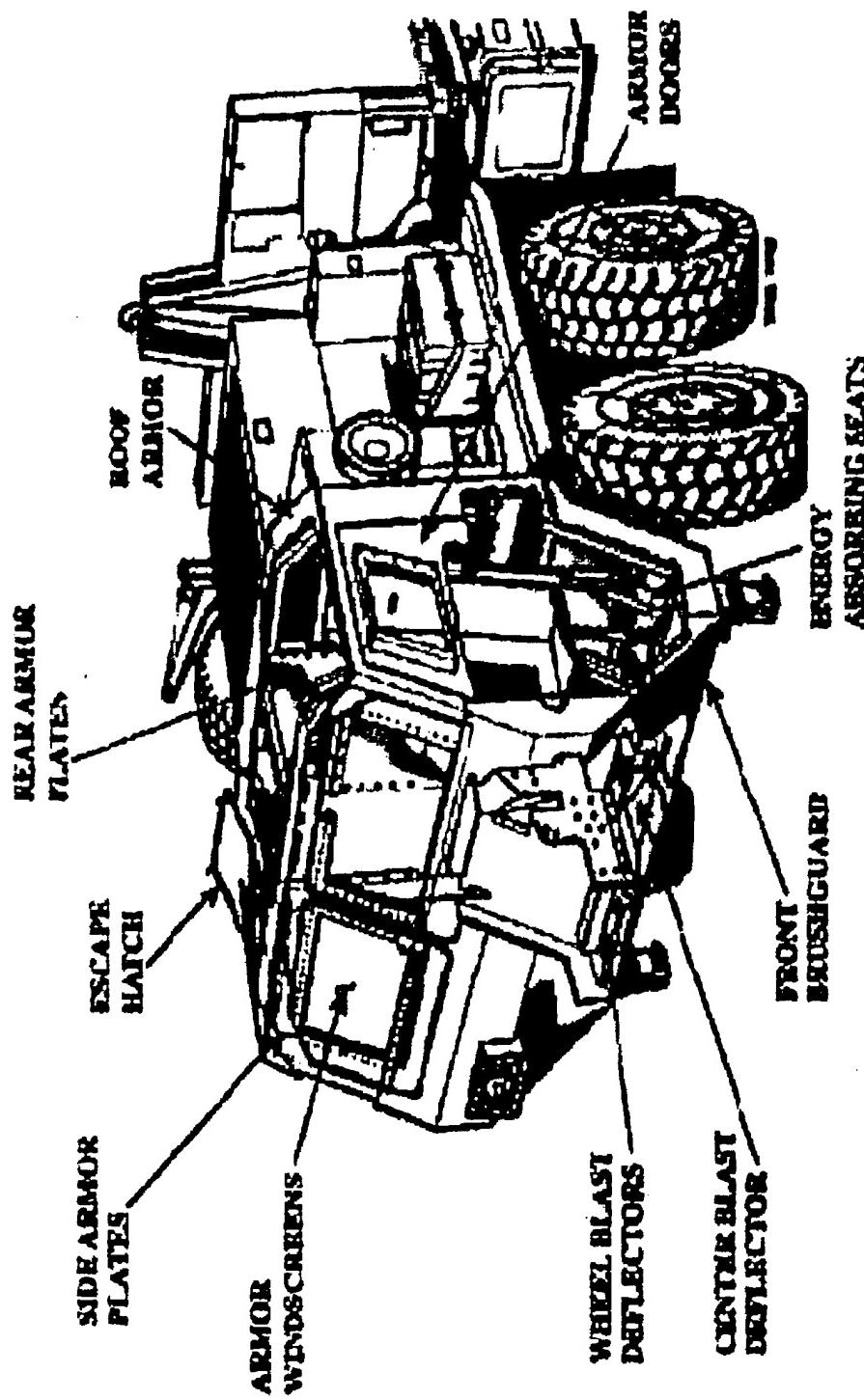
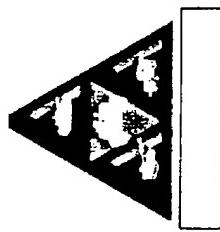
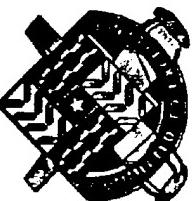
1. Anti-Tank Blast Mines (12 lb. TNT)
2. Small Arms (infantry rifle) fire
3. Anti-personnel fragmenting mines

Response:	<u>5 Ton</u>	<u>PLS</u>	<u>HEMTT*</u>
# of kits Produced	165	54	186
Kit Weight Added:	1,860 lbs	2,006 lbs	2,053 lbs
Per-unit Production Costs:	\$34,500	\$45,405	\$36,000
Per-unit Installation Time:	65 manhours	35 manhours	40 manhours

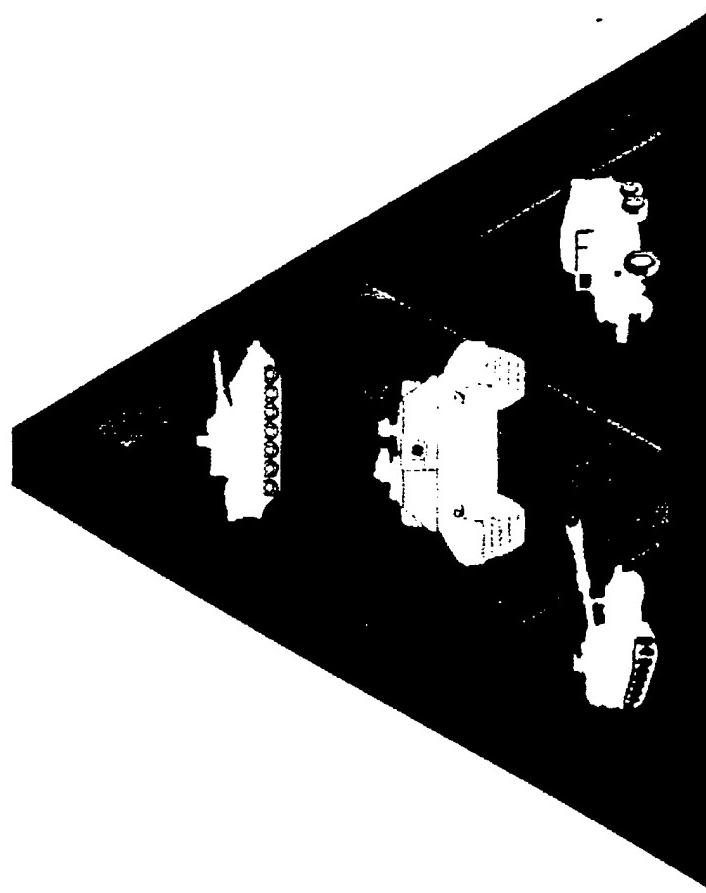
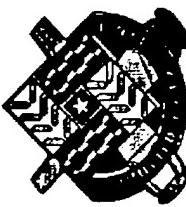
\*Industry design and fabrication.

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# PLS CREW PROTECTION KIT



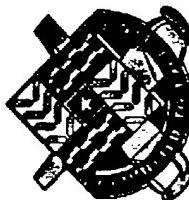
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T A R D E C

**Corrosion**

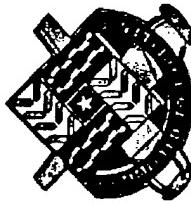
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## Current Status of the Fleet - an overview

- ◆ 800 Thousand Ground Vehicles in Army, NG and AR Units
- ◆ Positioned in a Variety of Locations and Various Environments, Long Term Storage (WRM), Active etc.
- ◆ Investment in 5 Ton Truck is ~ \$80 to 120 K (new)
- ◆ Corrosion Maintenance Costs \$800 to 1200/year/5T vehicle
- ◆ Cost to Replace One 5 Ton Cab is ~ \$17 K
- ◆ Total Cost to the Army is ~ \$2 B / Year !!! (Battelle Study)

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## Accomplishments To Date

- ◆ Army's First ACT on an Entire Vehicle
  - HMMWV - at TRC in Ohio (80's)
  - FMTV - on going - at TRC and APG
- ◆ Cape Canaveral Marine Exposure Facility
  - JEEP Bodies and Door of 5 Ton Truck
    - ▶ Coatings and Repair Procedures
    - ▶ Construction, Design and Adv. Mfg. Techniques
- ◆ Field Evaluation of COTS:
  - Zinc Rich Primers and Thermal Spray
  - Corrosion Inhibiting Coatings: CarWell, Z-Tech etc.
  - Chip and Abrasion Resistant Coatings

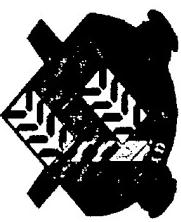
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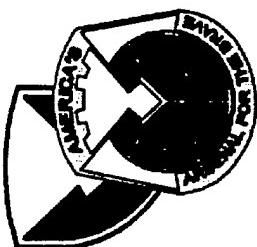
## Accomplishments To Date - continued

- ◆ Composites
  - Driveshafts
  - HMMWV Hood
- ◆ Non - Ferrous Metals
  - Hatch Covers for Bradley and M-1 parts
  - Base Plate for 80 mm Mortar
  - FreightLiner M-915 Tractor has an All Aluminum Model
  - 5 Ton Truck Stainless Steel Cab

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## U.S. Army Tank-automotive & Armaments Command



# Acquisition Center Overview

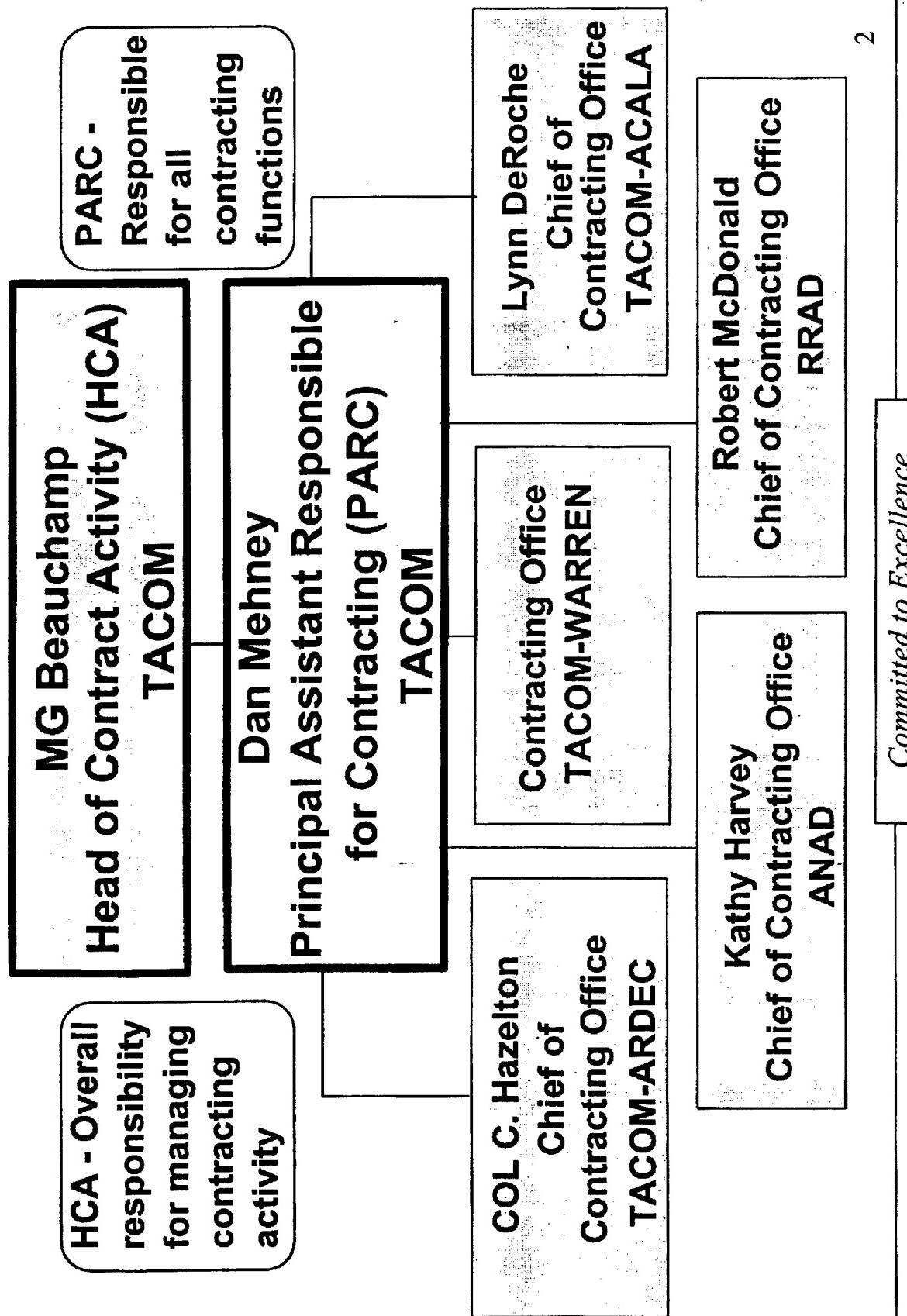
NDIA Tactical Wheeled Vehicle Conference

1-2 February 1999

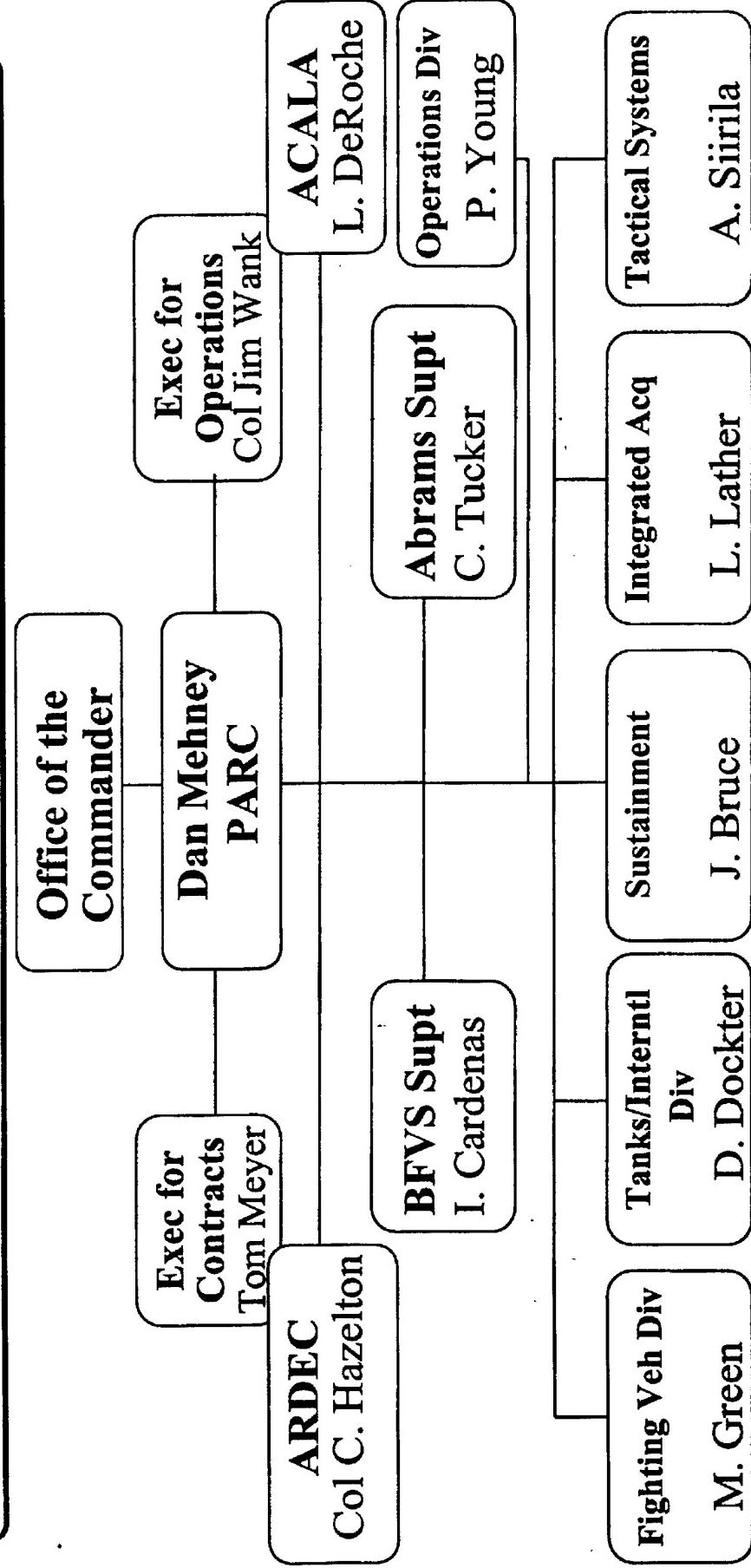
Daniel G. Mehney  
Director, Acquisition Center

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# U.S. Army Tank-automotive & Armaments COMmand TACOM



# ACQUISITION CENTER ORGANIZATION



# ACQUISITION CENTER ORGANIZATIONAL DEVELOPMENT

One site - Warren

Process focused

Hvy overhead structure

Hierarchical structure

Separate skill bases

Physically separate

From customer

3 Sites, 1 Center  
Customer Aligned  
Minimal Overhead

Team Concept  
Skill Bases Integrated  
Partially Co-located  
with Customer

5 Sites  
Org Integrated  
IPTs

Multifunctional/Co-located  
W/Customer

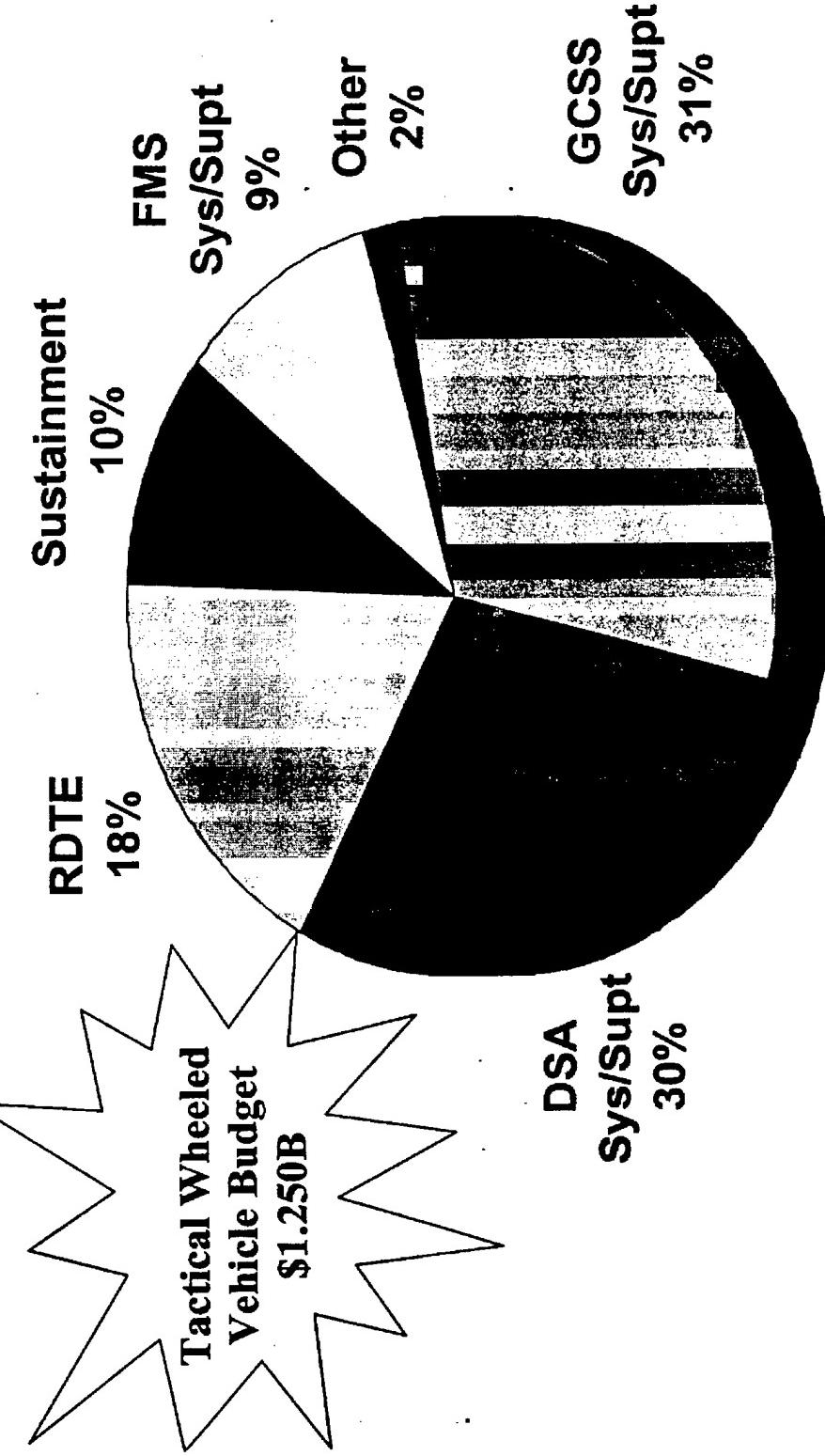
FY99 (in process)

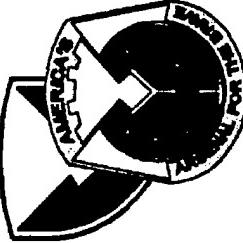
FY98

FY92

# TACOM TOTAL FY99 OBLIGATION PROJECTIONS

**Fund by Customer: \$4.59 Billion Estimated Obligation**





U.S. Army Tank-automotive &  
Armaments Command

## Reform & Streamlining Perspective

NDIA Tactical Wheeled Vehicle Conference

1-2 February 1999

Daniel G. Mehney  
Director, Acquisition Center

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# Where We Were! (FY92)

**Government/Industry  
Relationships**

“Arms-length” Often Adversarial  
Limited Industry Input  
Functionally Segregated; Consecutive  
Processing

**Requirements  
Reform**

Design Specifications  
Government Configuration Control  
Extensive, Redundant Testing  
Unique Processes and Products  
Commercial Items The Exception

**Process  
Reform**

Rule Based Process  
Paper Process, Drawings & Aperture  
Cards  
Limited Imprest Fund Authority (<\$50)  
Low Bid Preferred Approach  
Large Inventories

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# Where We Are!

**Government/Industry  
Relationships**

Partnership  
Integrated Product Teams  
Concurrency in Procurement  
(ALPHA Contracting)  
Alternative Dispute Resolution

**Requirements  
Reform**

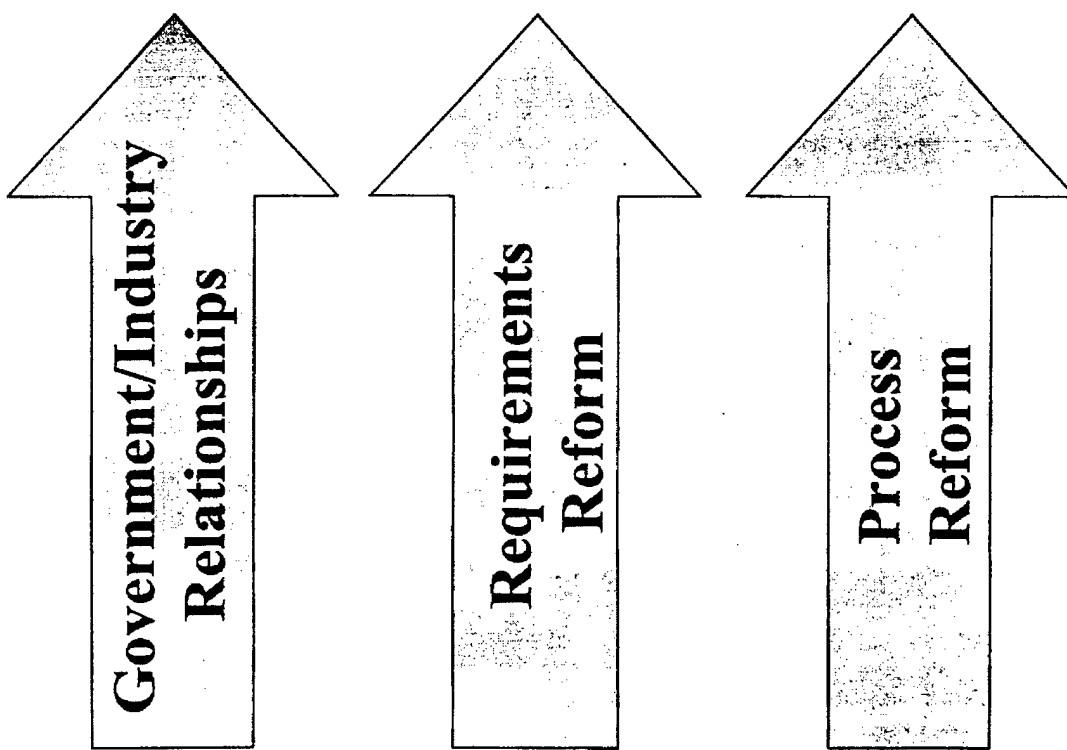
Performance Based Requirements  
Contractor Configuration Control  
Simulation in Lieu of Hard Testing  
Single Process Initiative  
Commercial Products & Processes

**Process  
Reform**

Business Based Process  
Electronics/WWW/EDI  
Credit Cards  
Long Term Contracts  
Past Performance Evaluation  
Best Value  
Direct Vendor Delivery

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# Where We're Going!



- Qualified Supplier List
- Leveraged Business with DCMC/  
DLA & Industry
- Prime Vendor
- Longer Term, Fewer Contracts
- Focus on Small Business Participation
- Corporate Contracts
  
- Shorter Cycle Times
- Logistics Reform & Privatization
- Modernization Thru Spares
- Commercial Products
- Focus On Reducing Cost of  
Ownership/Life Cycle Cost
  
- Commercial Based Process
- Electronic Contracting & Ordering
- Electronic Shopping Malls/Virtual  
Contracting Web Site
- Expand Credit Card Use
- More Integrated Product Teams
- Automated Best Value
- Buy Response, Not Inventory

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# Current Acquisition Examples

## Vibratory Roller

- Upfront communications
  - ▶ Draft spec released for industry comment
  - ▶ Pre-proposal conference held
  - ▶ RFP posted on the Web
- Streamlined evaluation criteria
- Used oral proposals for some areas
- Performance spec
- Negotiating manual supplementation after award using Alpha
- User to decide how much supplementation based on cost (CAIV)
- Testing only military unique requirements; relying on commercial market acceptability for most requirements

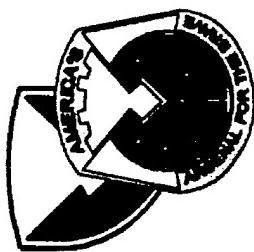
# **Current Acquisition Examples**

## **MTVR**

- Performance Spec - only 11 MIL-SPECS or MIL-STDs
- Shared design/perf simulation capabilities w/contractors
- Used modeling/simulation to eval tech areas not tested
- Both draft and final Phase II RFQ posted to web site
- Oral presentations used for portions of Phase II proposal
- Electronic data deliverables
- Partnering agreement anticipated

## Potential/Pending/Recent Regulatory/ Statutory Changes

- Price based acquisition - DOD study group formed
- Price reasonableness - FY99 Authorization Act requires supporting data from industry
- Corporate Restructuring - Proposed rule published to capture savings
- Non-conforming mat'l/conditional acceptance - Proposed FAR rule requires PCO to withhold funds
- Depot maintenance competition - FY99 Appropriations Act requires comparable cost basis; excludes A-76 requirements
- FMS Procedure Reform - ongoing DOD process action team



# U.S. Army Tank-automotive & Armaments Command

## Industrial Base

NDIA Tactical Wheeled Vehicle Conference

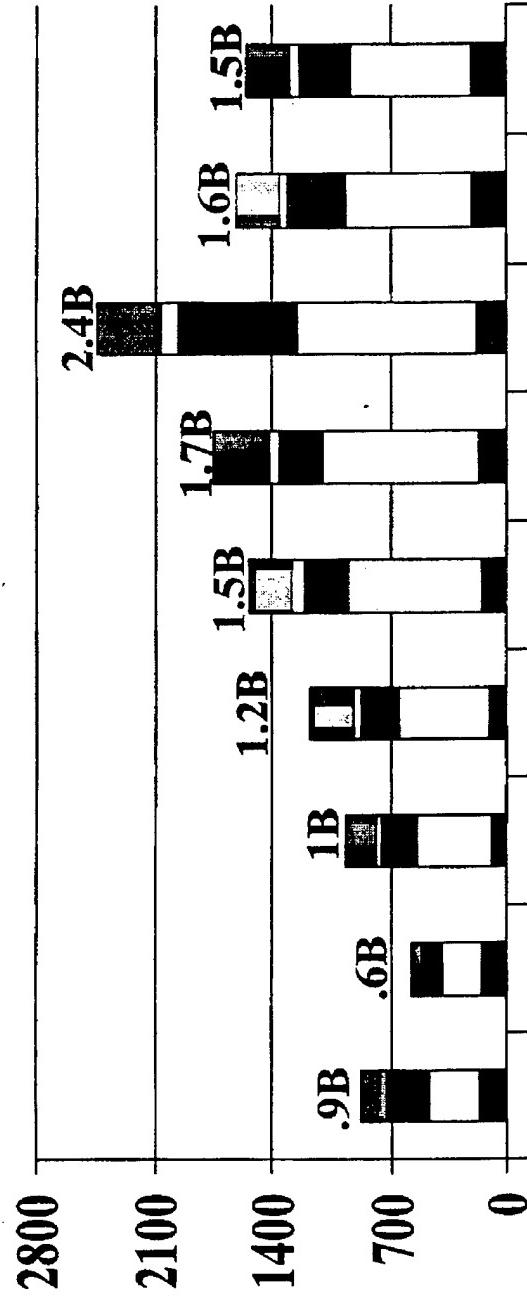
1-2 February 1999

Daniel G. Mehney  
Director, Acquisition Center

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# TACTICAL WHEELED VEHICLES

## REQUIREMENTS \$\$\$



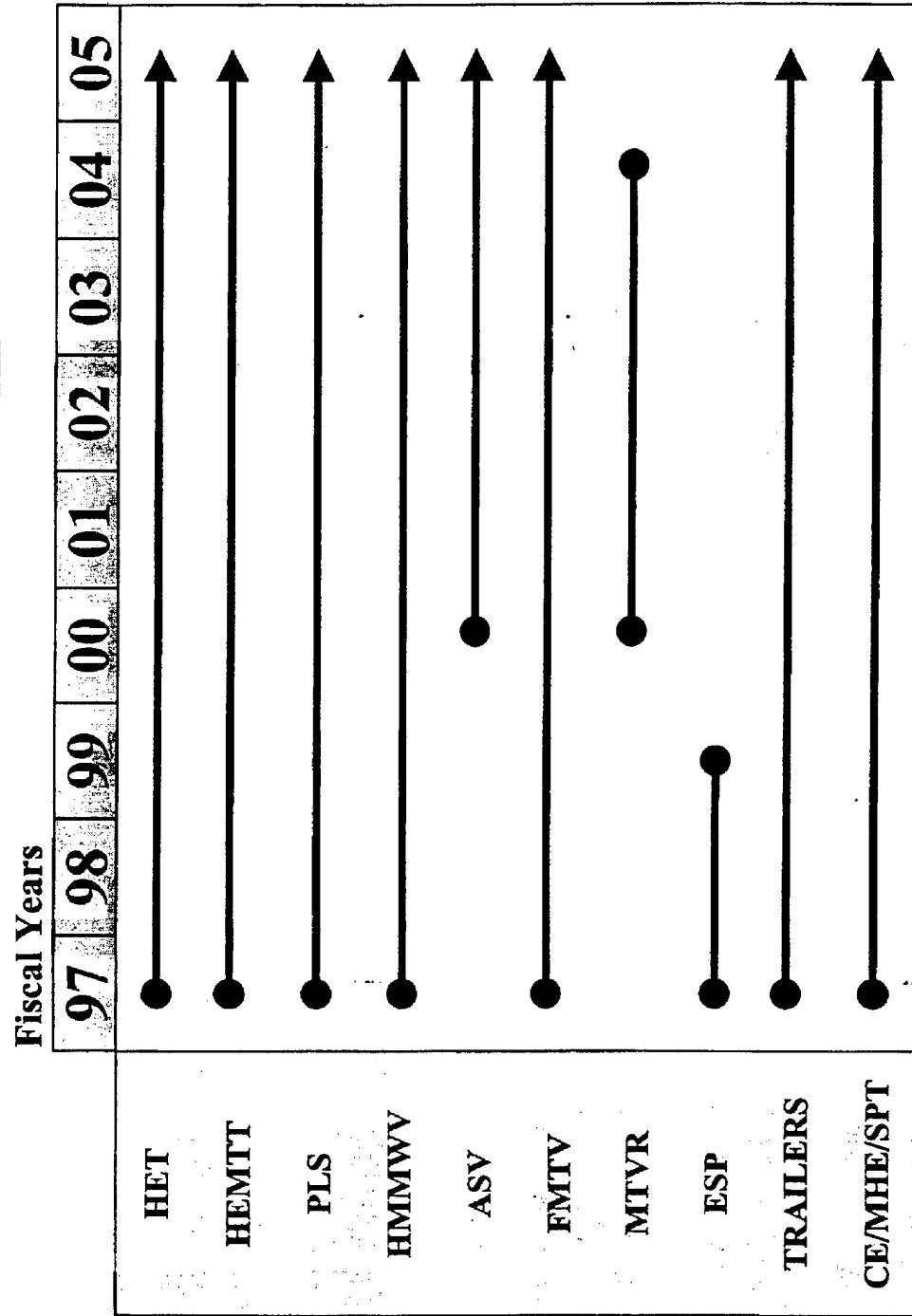
\$ SNOITILLIN

	FY 97	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04	FY 05
■ CE/MHIE/SPT	144	54	187	254	253	324	372	255	260
□ TRAILERS	10	10	25	45	75	69	111	50	53
■ HEAVY	256	119	203	219	252	246	699	341	302
□ MEDIUM	300	236	455	543	800	943	1072	752	726
■ LIGHT	164	151	93	106	148	162	183	212	212

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# TACTICAL WHEELED VEHICLES

## PRODUCTION PROFILE



# TACTICAL WHEELED VEHICLES

## FUTURE INDUSTRIAL BASE ASSESSMENT

- Tactical Wheeled Vehicle Industrial Base Assessment now in process - Target Completion 30 Sep 99
- Essential that industry contributes to the assessment
- Study limited to new vehicle production impacts on industry regarding engineering support and STS requirements
- Identify parts that will no longer be manufactured so that appropriate resolution can be immediately initiated
- Determine industry impacts on Force XXI and Army After Next requirements in order to maintain and sustain an effective Tactical Wheeled Vehicle industrial base

1999

# Tactical Vehicle Techniques Conference



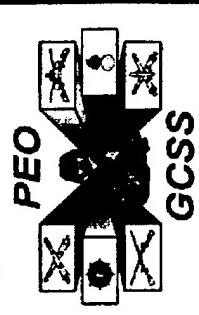
Presented by

**Mr. Albert Puzzuoli**  
**Deputy Program Executive Officer,**  
**Ground Combat & Support Systems**

# Mission Statement



To Maintain a Total Army Perspective in Managing  
the Development, Acquisition, Testing, Systems  
Integration, Product Improvement and Fielding  
That Places the Best Ground Combat and Support  
Systems in the Hands of our Soldiers



# Army PEO Structure

## Acquisition Executive Pentagon

**MG J. R. Snider**  
Aviation  
Huntsville, AL

**BG D. L. Montgomery**  
Air Missile Defense  
Huntsville, AL

**BG S. W. Boutelle**  
Command, Control & Comm Sys  
Ft. Monmouth, NJ

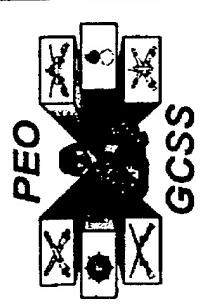
**COL (P) J.W. Holly**  
Tactical Missiles  
Redstone Arsenal, AL

**COL S. deKanter**  
Standard Army Management Info  
Ft. Belvoir, VA

**MG D. Gust**  
Intel Electronic Warfare & Sensors  
Ft. Monmouth, NJ

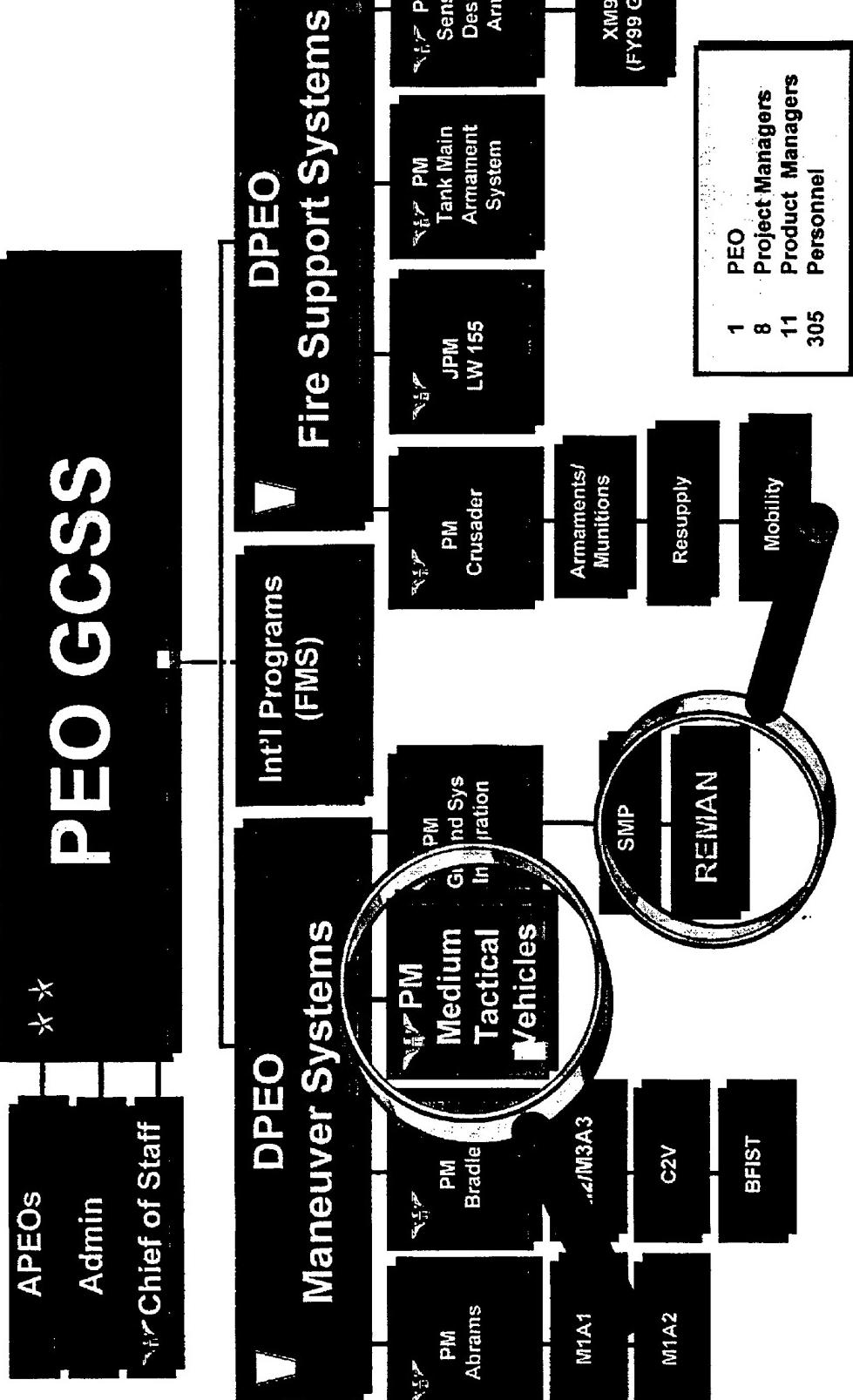
**MG J. F. Michitsch**  
Ground Combat & Support Systems  
Picatinny Arsenal, NJ  
Warren, MI

# Current Organization

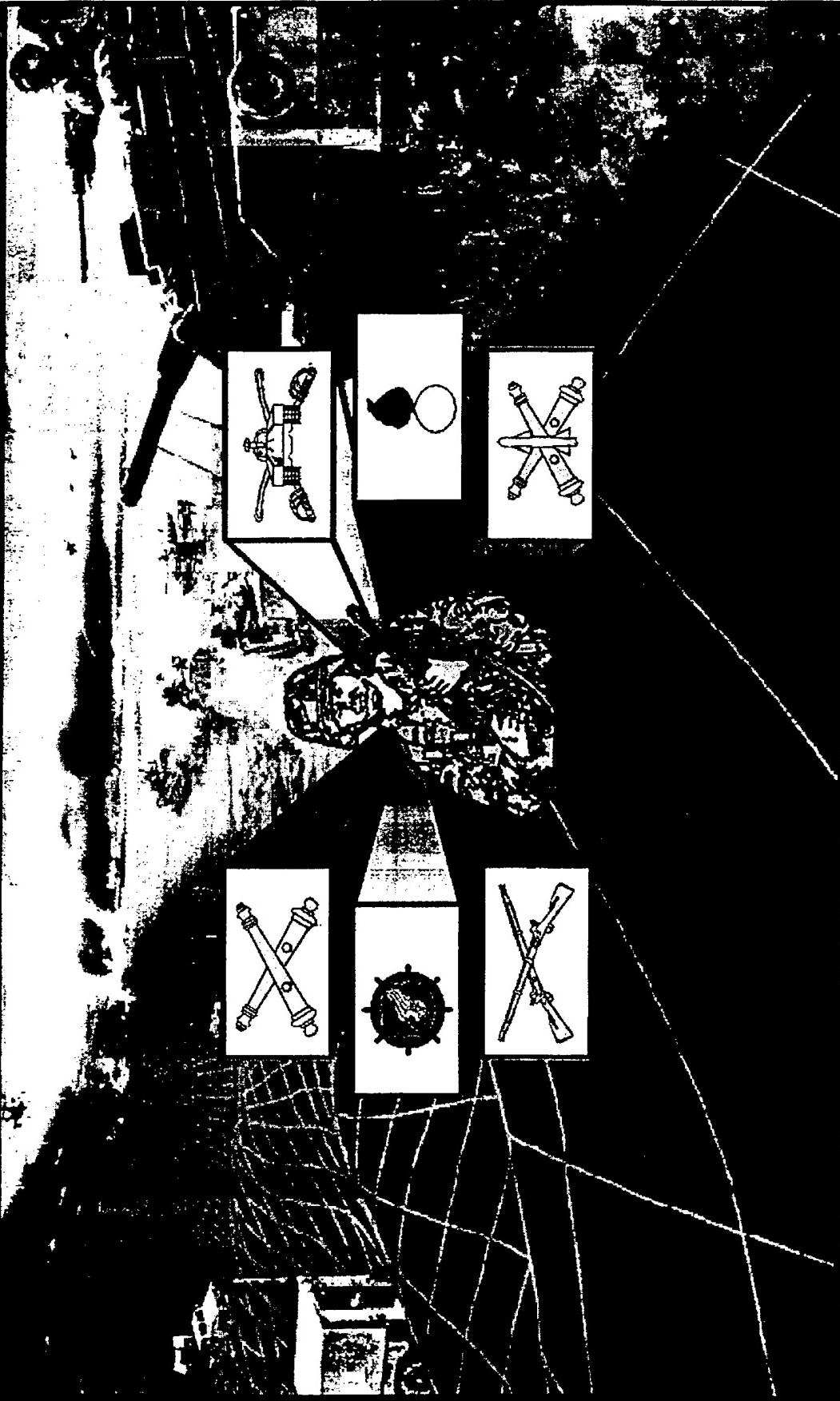
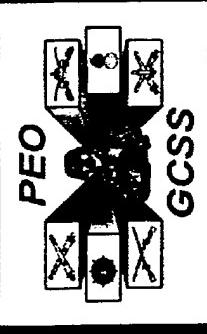


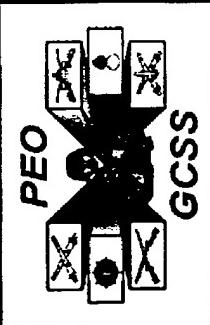
PEO  
Admin  
Chief of Staff

PEO GCSS



# Procurement and Production





## FMTV Program Background

- FMTV - 14 Truck Models in the 2 1/2 and 5 Ton Payload Class with over 80% Commonality and 2 Complementary Trailers
- 85,000 Vehicle AAO Required over 30 Years
- First Production Awarded in Oct 91 to Stewart & Stevenson (S&S) for 11,300 Trucks in 12 Models
- First Unit Equipped Date - Jan 96
- Second Production (A1) Awarded in Oct 98 to S&S for 8,668 Trucks in 11 Models and 1,560 Tactical Trailers
- Phase I FMTV Second Source Awarded in Oct 98 to AM General and Oshkosh for 3 Pre-Production Vehicles Each



## A1 Model Production Upgrades

- Chassis
  - CAT 3126 Engine w/Electronic Control (EPA 98 Compliant)
  - Allison World Transmission Electronic Controls (WTEC III)
  - Meritor Hub Reduction Axles w/Antilock Brake System (ABS) (DOT 98 Compliant)
  - SAE J 1708/1939 Compatible Data Bus
- Interactive Electronic Technical Manuals (IETMs)
- New M1082 Light Trailer with 2 1/2 Ton Payload
- New M1095 Medium Trailer with 5 Ton Payload



# FMTV Production Verification Test

## Consists Of:

4 LMTV 2 1/2 ton Trucks

2 for RAM (20K miles)

2 for IETM VAL/VER

11 MTV 5 ton Trucks

3 for RAM (20K miles)

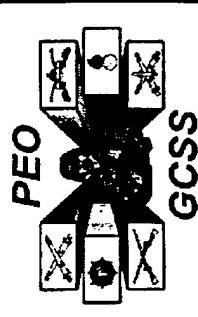
2 for PERF

6 for IETM VAL/VER

## OUTCOME

Validate A1 Improvements

Accumulate Additional 100K Mileage  
on Driveline



# FMTV Driveline Improvements

## ENGINE FLYWHEEL HOUSING

- Nodular vs. Grey Iron with Increased Wall Thickness



## DRIVESHAFT

- Larger Diameter Tube



## YOKE

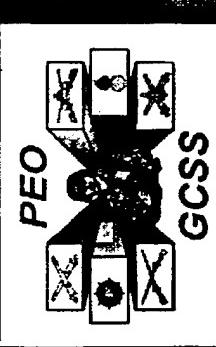
- Full Round vs. Strap Attachment



## U-JOINT

- Nylon vs. Steel Thrust Washers





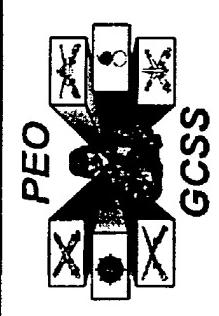
## ESP Current Programs

- Purchased with FY99 Funds 600 Vehicles
- Total Program Buy 5,488 Vehicles
- Production Line Scheduled to Close April 1999
- Fielding Completed by June 1999

# ESP Termination/Rational



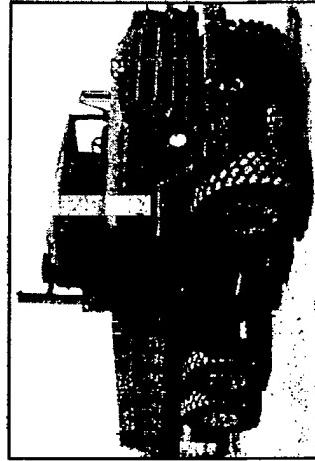
- Insufficient Funds to Support Economic Production of Both ESP and FMTV
- ESP Funds Shifted to Purchase Additional LMTVs for the Reserves
- Medium Fleet Modernized by 2017 With a Mixture of LMTVs and ESPs
- 2 1/2 and 5 Ton Requirements Filled with FMTVs by 2022



# MTVR Requirements

## MOBILITY

Tactical High Mission Profile  
(30% Highway/Secondary Roads,  
70% Trails and Cross-Country)



## CARGO CAPABILITY

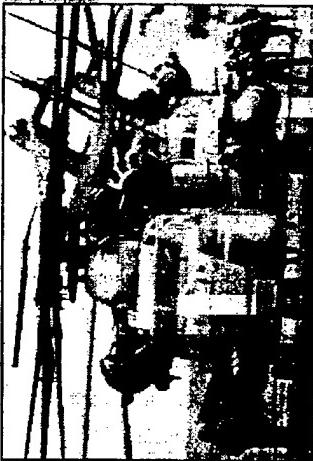
7.1 Tons Cross-Country  
15 Tons Highway



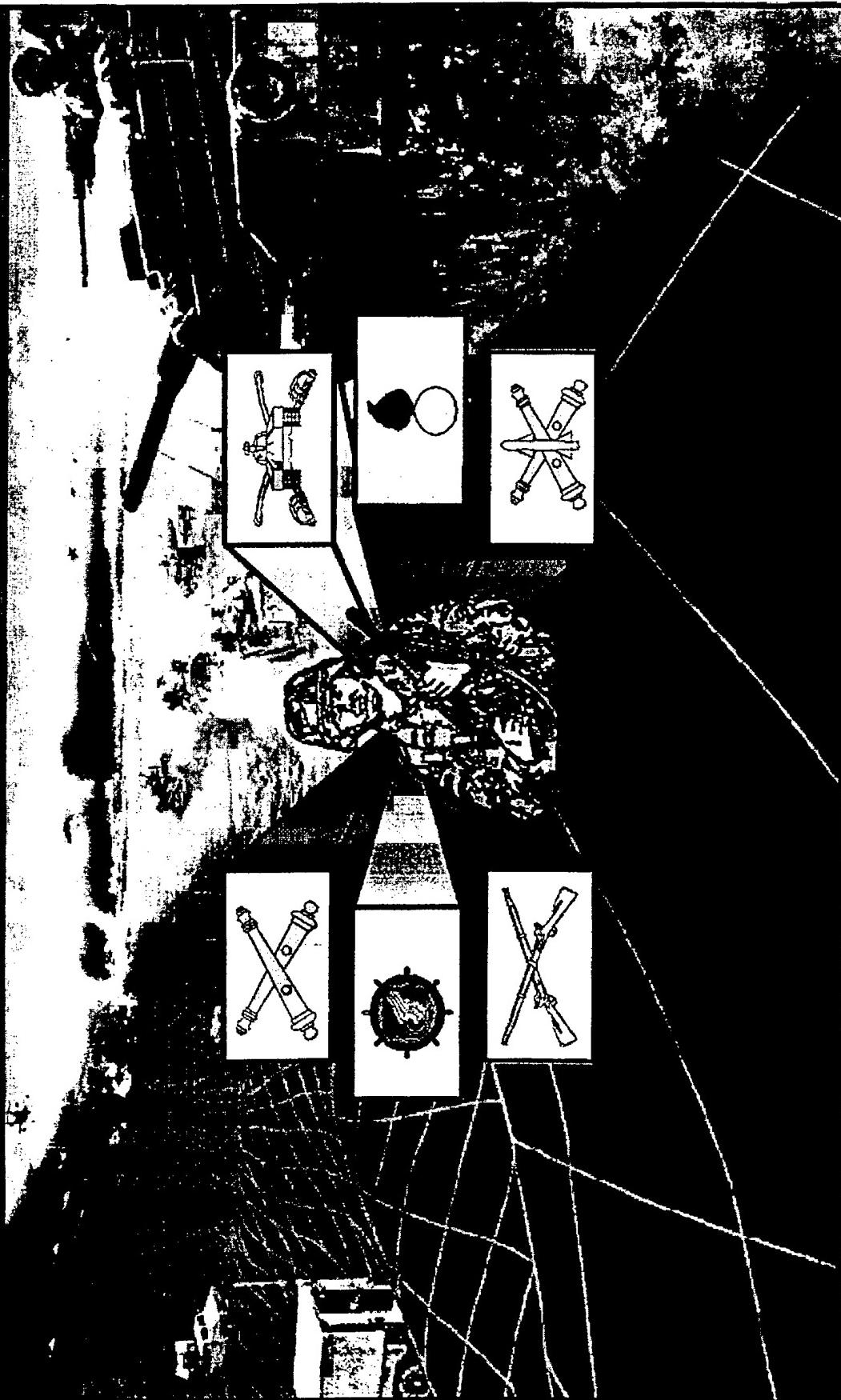
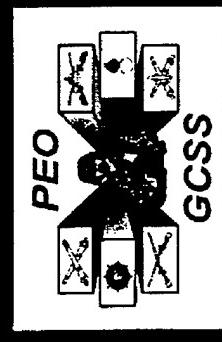
22 Year Protection  
Corrosion

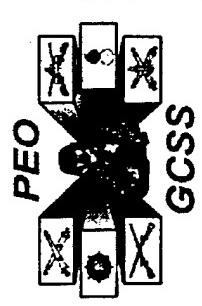
## CH53 HELICOPTER LIFT

Vehicle Weight Less Than  
28,000 Pounds



# Field Support





# FMTV Contractor Logistic Support

## ■ Vehicle Manufacturer as Source of Supply

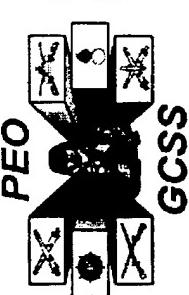
- DLA Corporate Contract

## ■ Field Focus

- Onsite Technical Representatives
- Warranty Program (18 Month/12,000 Miles)
- Retraining Classes
- PQDR Responsiveness

## ■ Contractor Parts Support (After Market Sales)

- 24 Hour Turn Around Time on Part Delivery
- Full Parts Delivery Support
- IMPAC Card Response to Field



# MTVR Contractor Logistics Support

## Customer Focus

- Onsite Tech Rep
- 24-Hour Hotline
- Improve Order & Ship Cycle Time
- Reduce Stockage

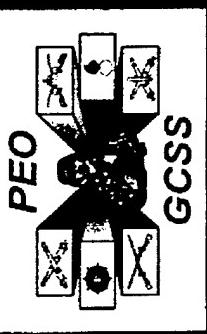
## Contractor Focus

- Beyond Traditional Govt/Industry Supply Method
- Electronic Commerce with Direct Vendor Delivery
- Performance Metrics
- Supply Chain Management
- Encourage Innovation

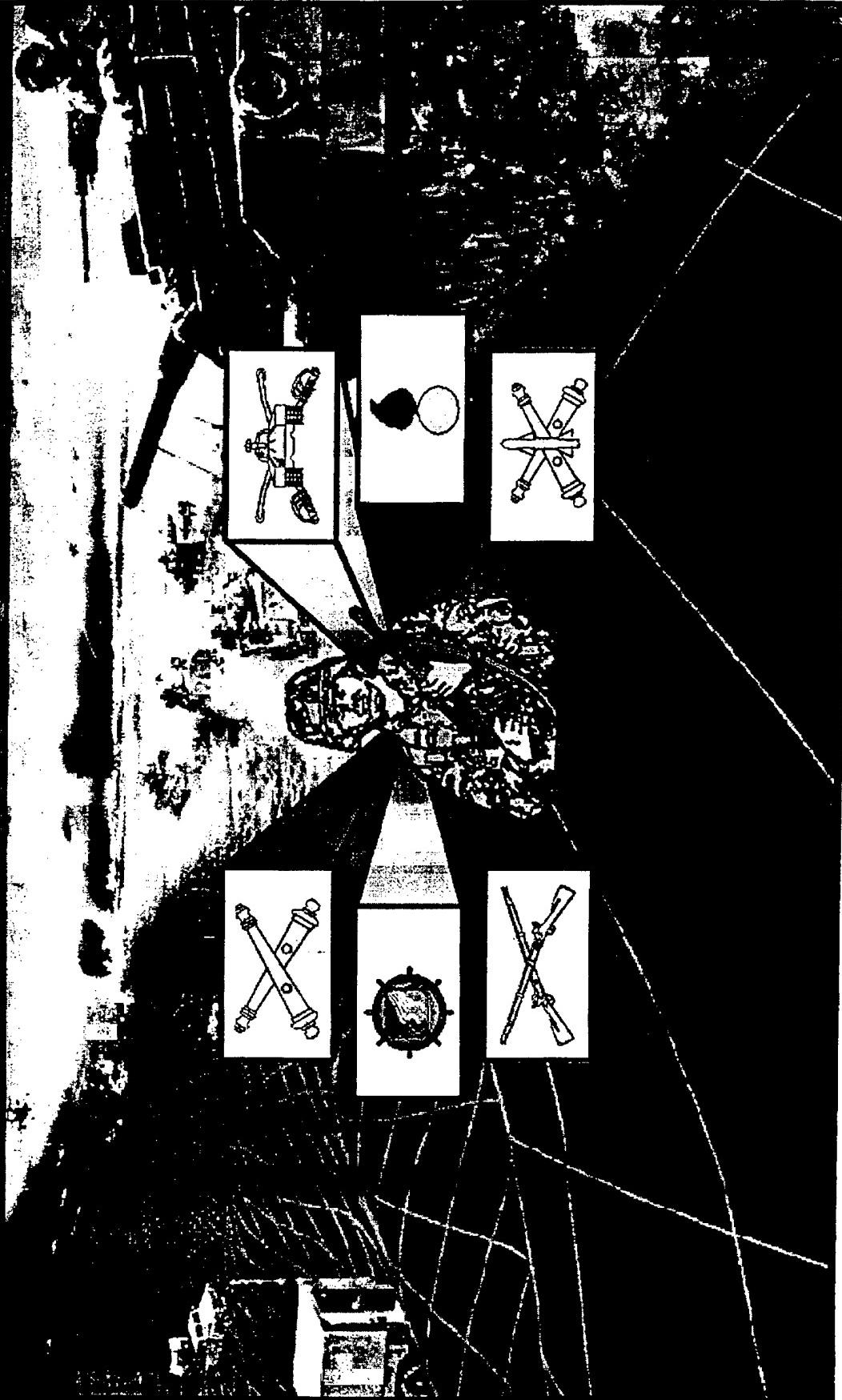
## Partnering

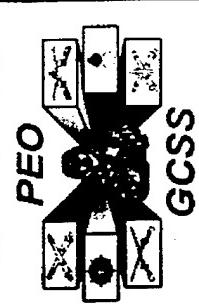
- Warranty Tracking by Contractor
- Life Cycle Cost Accounting
- Total Asset Intransit Visibility

## OEM as Complete Source of Supply



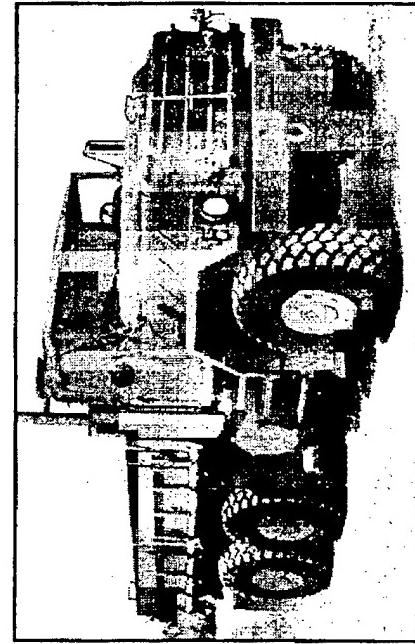
# Emerging Systems & Technologies

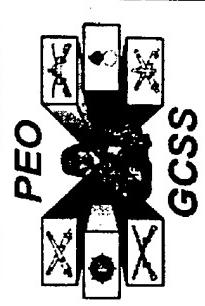




# MTVR Acquisition Strategy

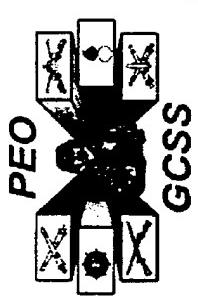
- Two Phase Acquisition
  - Phase I - Prototypes and Testing; Completed April 98
  - Phase II - Downselect to one Production Supplier
- Production Contract Awarded to Oshkosh Truck Corporation
- 5 Year Multi-Year Contract to buy all of the USMC Medium Truck Requirements
- Initial Production Model Will be the Standard and Long Wheel Base Cargo
- Parallel Development Effort for Dump, Telephone Maintenance, Trailer and Wrecker Variants





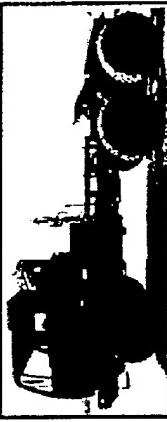
## Second Source Plan/Approach

- AAE Directive 11 Sep 97- Introduce Competition at Earliest Junction Possible Within Current Funding Streams
- Acquisition Plan Approved 27 Nov 97- Two-Phase Approach to Prepare Second Source for Competition with the Current FMTV Manufacturer in FY03
  - Phase I- Multiple Competitive Pre-Production Awarded Oct 98 Each Contractor Builds 3 Vehicles to System Performance Specification w/ TDP Provided for Reference
  - Phase II- Competitive Second Source Production Award Downselect Planned in FY00 for 3-Year Multiyear
- Beginning in FY03- Stewart and Stevenson and Second Source Compete for Share of Follow-On 5-Year Competitive Multi-year Production Contracts



## Second Source Current Status

- Phase I Awarded 30 Oct 98 to AM General and Oshkosh Truck Corporations
- Fixed Firm Price (FFP) Contract to Build Three Pre-Production Vehicles:



MTV TRACTOR



MTV CARGO



LMTV CARGO

- Goal-Achieve Maximum Operational Effectiveness at the Lowest Possible Cost by Maximizing Vehicle Commonality Among the FMTV A1 Fleet
- Emphasis is Placed on Minimizing Operating and Sustainment Costs

- Milestones:

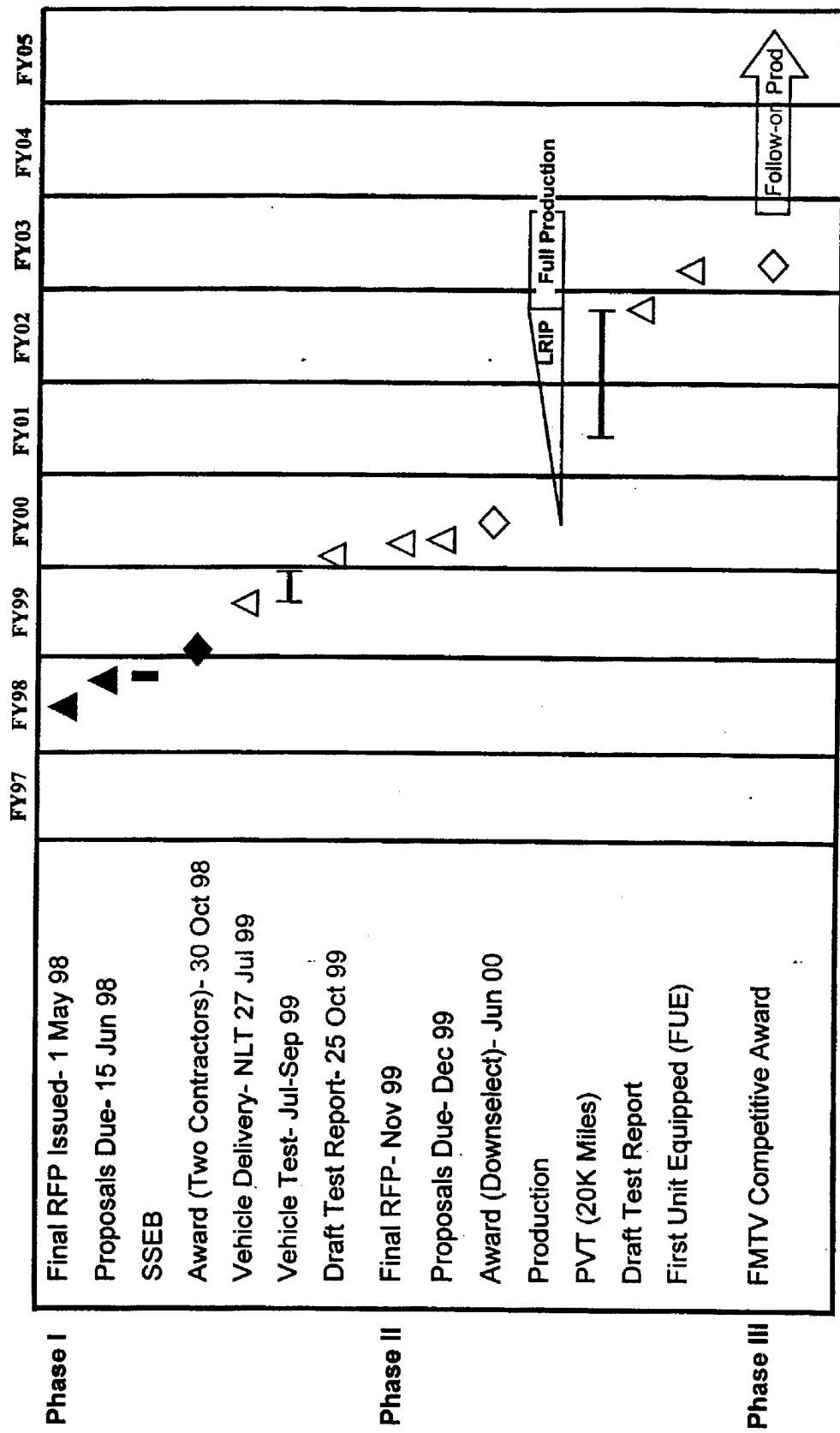
### PHASE I

Acquisition Plan Approved	27 Nov 97	Release Final RFP
D&F Approved	27 Feb 98	Proposals Due
J&A Approved	28 Feb 98	Source Selection Evaluation
Phase I Awarded	30 Oct 98	Certification of Compliance
Delivery	27 Jul 98	w/ Congressional Language
6,000 Mile Technical Test	Jul 99-Sep 99	Feb 00-Jun 00

### PHASE II

		Nov 99
		Dec 99
		Dec 99-Feb 00

# Second Source Schedule



1/11/99

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NOTE: Gary Reese has been  
replaced by Kraig Siracuse to  
handle relevant Army programs.

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\*\* The 106th Congress renamed the  
House National Security  
Subcommittee to the Defense  
Subcommittee.

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*Donald L. Sherwood (PA)*

NOTE: The 106th Congress  
renamed the House Committee  
on National Security to the  
House Armed Services  
Committee.

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Neil Abercrombie (HI)

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Patrick Kennedy (RI)

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